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FROM THE FUND OF
CHARLES MINOT
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Commercial Biography Vol. 1. p. 131.

STEPHEN GIRARD.

Engraved for the Merchants' Magazine.

THE

THE

COMMERCIAL REVIEW

OF THE

SOUTH AND WEST.

A MONTHLY JOURNAL

OF TRADE, COMMERCE, COMMERCIAL POLITY, AGRICULTURE.
MANUFACTURES, INTERNAL IMPROVEMENTS, AND
GENERAL LITERATURE.

“Commerce is King.”—CARLYLE.

J. D. B. DE BOW,

EDITOR AND PROPRIETOR.

2
VOL. ~~IV.~~

C
NEW ORLEANS:
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Minot fund

NEW ORLEANS CHAMBER OF COMMERCE.

New Orleans, May 4th, 1846.

Be it resolved, That this Chamber highly approves of the Commercial Review, a periodical established in this city by J. D. B. De Bow, Esq., and recommends it to the patronage of the commercial community.

SAMUEL J. PETERS, *President*.

Charles Briggs, *Secretary*.

Sir: I prefix a copy of a resolution, passed *unanimously* at a meeting of the Chamber of Commerce of this city, last evening.

Respectfully, Charles Briggs, *Sec.*

To J. D. B. De Bow, Esq.

CHARLESTON CHAMBER OF COMMERCE.

Charleston, October 26th, 1846.

At a meeting of the Chamber, held this evening, the following resolutions were, after a few preparatory remarks, introduced by Col. J. Gadsden, and being seconded, were adopted by the Chamber.

Resolved, That the Commercial Review, edited in New Orleans by our fellow-citizen, J. D. B. De Bow, Esq., is a work well calculated to exercise a most favorable influence on the Commercial interests of the South and West.

Resolved, That the zeal and talent with which it has been commenced, and the able articles which have appeared in its pages (as foreshadowing on the future the promises of the past), strongly recommend the *Review* to the patronage of the Southern community, and that the Chamber of Commerce of Charleston feel gratified at the opportunity of presenting to the public this testimony in its favor.

On motion of A. Moise, jr., Esq.,

Resolved, That a copy of these resolutions be forwarded to Mr. De Bow, and that they be published in the daily newspapers of the city.

Extract from the minutes.

William B. Heriot, *Secretary*.

SOUTHERN RAILROAD CONVENTION.

Columbia, S. C., May, 1846.

On motion of A. G. Summer, Esq.,

Resolved, That it is with pleasure we learn our late fellow-citizen, J. D. B. De Bow, Esq., now of New Orleans, hereafter intends to devote a large portion of the Commercial Review to the railroad interest in the South; we therefore heartily recommend that work to the patronage of those persons interested in such enterprises.

DE BOW'S COMMERCIAL REVIEW;

A MONTHLY JOURNAL OF TRADE, AGRICULTURE, COMMERCE, COMMERCIAL POLITY, MANUFACTURES, INTERNAL IMPROVEMENTS, &c.

Published Monthly, in the City of New Orleans.

Terms $5 per Annum, in advance.

Advocating the interests of the South and West, the Commercial Review will not be the less mindful of the great interests of Trade, Commerce and Agriculture throughout the World—Commerce in its various and multiform relations—in its History, its Laws, and its Statistics; Commercial commodities; regulations of Trade, inter-State and inter-National; Treaties; Foreign and Domestic Tariffs, Excises and Posts; Marine relations; Enterprises of Commerce, in Shipping, Canals, Railroads and Steam Navigation, etc.; Mercantile Systems, Codes, Laws and Decisions, ancient as well as modern; Banking Insurance, Exchange, Partnership, Factorage, Guaranty, Brokerage, Bankruptcy, Wreck, Salvage, Freights, Privateering, Marque and Reprisal, Piracy, Quarantine and Custom House Regulations, etc., etc.; Commercial Literature and Biography.

PROSPECTUS TO THE THIRD AND FOURTH VOLUMES.

This work has been regularly published nearly two years. Its success has been signal throughout the whole Southern and Western Country, and its subscription list steadily and rapidly increased there and in other sections of the Union. In this brief period it has gained a larger circulation than any other Southern work, and the strongest influence. Complimentary letters and notices have been received from every source, even the very highest, as could be shown did space permit. The Commercial Review has advocated and upheld the

Commerce and Agriculture of the Southern and Western States,

and exhibited from time to time their complete

STATISTICS,

in such a manner as could not but have secured the best results. The papers which have appeared upon Sugar and upon Cotton, upon Tobacco and Rice, and Manufactures, upon the Progress of our Commercial Relations with all nations, and upon Mexico, may be stated as examples. Indeed, this has been admitted from many sources. Although devoted in its aims to the development and exhibition of the

Resources of the South and West,

the Commercial Review neglects no view of

American and European Industry and Enterprise,

in every department, and must be of equal value to American Citizens wherever they are found. Is there a section of the union, too, or an interest which has no concern with the progress and resources of the GREAT WEST, of which the Commercial Review is the faithful exponent?

TESTIMONIALS.

If the Index of contents now published were not sufficient evidence of what the work has been and is, we might remark that it has been highly commended to us, among others, by the Hon. Henry Clay, Hon. J. C. Calhoun, Hon. J. Q. Adams, Hon. Levi Woodbury, Hon. E. Burke, Patent office, Hon. Abbot Lawrence, Hon. Joel R. Poinsett, the most important chambers of Commerce, etc., etc. A host of letters might be easily published, and notices from Journals of highest character; as the *Union* and *National Intelligencer*, *Courier and Enquirer*, *Charleston Courier*, *Mercury*, *Patriot*, and *News*, *New York Courier and Enquirer;* all the New Orleans papers and others throughout the country—*Skinner's Farmers' Library*, *Hunt's Merchants' Magazine*, *Simmond's London Colonial Review*, etc., etc.

Improvements for the Fourth Volume.

At the opening of a FOURTH VOLUME, it is well to state that there are many great and important improvements now in course of preparation, which must add greatly to the interest and value of the Review, some of which this number will evidence.

1. Regular monthly *Summaries of American Commerce* will be prepared by one of the ablest writers upon such subjects in the Union.

2. A similar *European Correspondence* is secured, and publications will be made.

3. No pains has been spared to obtain the pens of the ablest *American writers* for the work.

4. A series of papers will be published beginning with the present number, and extending through one or two years, from the pen of the editor and other collaborators upon

I. SUGAR.
II. COTTON AND COTTON MANUFACTURES.
III. STATISTICS AND RESOURCES OF THE GREAT WEST.

A regular series will also be published upon *Silk*, *Wool*, *Hemp*, and similar subjects of agriculture and manufactures. The first of the series appearing in our November or December Number upon SILK, being an elaborate and valuable paper, full even to details, from an able and practical pen, aided by all the statistics of the Patent office, and illustrated with numerous wood-cuts. This Treatise will be invaluable.

5. A Department of American MERCANTILE BIOGRAPHY will be embraced, of leading characters taken from the MERCHANT CLASSES in every section of the Union, embellished with STEEL ENGRAVINGS, a feature to be first introduced by us in this country. These, in addition to the engravings we have already published, and *wood-cuts*, greatly increase the expense of publication. *Maps*, etc., will, if possible, be introduced.

6. The typographical execution of the work, paper, binding, etc., will be of the most superior order, not excelled by that of any other publication.

7. The work will be enlarged, and will contain

Monthly, from 112 to 128 Pages, in Close Type,

and annually be embraced within

TWO HANDSOME VOLUMES OF SIX HUNDRED PAGES EACH.

This is an *increase of size* equal to one-third over previous numbers and volumes.

8. The work will be *stereotyped*, and issued regularly on the first of each month, and furnished to subscribers without delay, and in the most secure manner; great improvements having taken place in the arrangement of our office.

The subscription price will be unchanged, but the greatest promptness in payments will be required from subscribers. We beg each of them to make use of this paper in acting as our friendly agent to increase the circulation. We would be glad to *present our work without charge, for one year*, to any one who would procure *three permanent subscribers* and forward us the money in advance.

We have kept our promises in the past, as the Commercial Review will evince, and shall keep them in future.

Bound Volumes of Commercial Review for 1846.

We are happy to announce that a *reprint* of these in *two handsome Volumes* will be issued about the 1st of November from the press. The style of execution and finish is most superior. As the numbers for 1846 have great value and were much sought, and as we have not been able to furnish them for many months back to our orders, this *re-publication* must pass through a very large edition. We have not, however, ventured to print many at first, but only to supply our orders, &c. Those persons who would complete their sets, had better do so at once; and all of our subscribers, new as well as the old, will be furnished the Volumes for 1846, *bound in very superior style*, for the subscription price remitted us, *without any extra charge for binding*. We are ready to supply from the beginning, and offer these accommodations that all may have the work complete. This arrangement to extend to no other Volume.

Editors of Newspapers not Receiving the Review,

Who will remit us *two dollars*, and acknowledge, *occasionally*, the Numbers of the work, and the Circular we send them *now*, will receive it for one year. We should be happy to furnish the press, who have been so liberal to us in the past, *without charge*, but the expenses are too great; we, however, make what may be considered a liberal offer.

A PREMIUM.

We will present any one who will send us *two new subscribers and the money*, without postage or discount, the *Review for* 1846, in one complete Volume, *bound*.

The Third Volume of Commercial Review, for 1847,

Is illustrated with Handsome Steel Engravings and Wood Cuts, representing the City of New Orleans, the Balize at the Mouth of the Mississippi River in 1804 and 1847, the Isthmus of Tehuantepec, and the Southern Railroad Route to the Pacific Ocean.

Articles for Commercial Review.

We announce the following list of subjects for the coming Volumes, and invite contributions:

The prospect of American Hemp; the Copper and Lead resources of the Northwest; the Gold Mines of the South; United States Mint and Branches; the Value, Character and Tests of Soil in the South and West; The Pilot System of New York and New Orleans; Changes in the Mississippi river; its banks and mouth; Summer Seats on the Gulf and Texas coasts; Internal Improvement Schemes at the South and West; Texas as a State; The Santa Fe and Mexican Trade; Our position with Mexico; New Orleans in the Past and in the Future; Historical Sketches of the States; Sketches of Southern and Western Cities; Manufactures of the South and West; Sketches of the Biography of Eminent Practical Citizens; Essays on Commercial Law, Commercial Decisions, etc.; Lafitte; Coins; The Polar Seas; Weights and Measures; American Treaties; Canals; American Railroads; Steam Navigation; The Mines; Banks and Banking; Western Rivers; Southern Manufactures; Trade in Breadstuffs; Commerce of Cuba; Light-house System; Coast Survey; Iron and Coal of Pennsylvania; Florida; Resources of North Carolina; Virginia; Trade, &c., Baltimore, New York, Boston; Lumber Trade of Maine, &c.; British Colonial Trade; Trade of European Powers; American Fisheries; The Slave Question; The Ocean; The Printing Art; Naval Stores; Provisions; Production Ardent Spirits; The Book and Paper Business.

Letters in relation to the Review will be directed, post-paid, to the editor, J. D. B. De Bow, or to the publisher,

B. F. DE BOW,
Office of Commercial Review, New Orleans.

☞ It is desirable that all past accounts shall be early closed: agents will please exert themselves. Specimens of the Review for examination will be sent to *responsible* persons who apply.

Advertisements inserted on stitched leaves and cards on accommodating terms.

We will be pardoned for extracting from the mass of notices in our possession two or three which happen at this instant to be at hand. It is better, however, that the work should speak for itself.

From Hunt's Merchants' Magazine.

"De Bow's Commercial Review for May contains much valuable matter of a Commercial and Miscellaneous character. It has reached its *seventeenth* Number, which is, in our opinion, the best of the series. Success to our name-sake.

"The No. for June and July opens with an elaborate and highly interesting paper, on the 'Romance of Louisiana History,' from the pen of the Hon. Charles Gayarre, Secretary of that State. There are also articles of value to the agricultural interests of the South, on the introduction of new products, as the vine, the cork, camphor, flax, etc.; and the cotton-worm, in its history, character, visitations, etc., forms the subject of another article. Dr. Hort, of New Orleans, has furnished a scientific analysis of Texas sugar soils. But the paper which has interested us the most, is that entitled 'Commerce and Agriculture Subjects of University Instruction,' from the pen of the accomplished editor of the Review, in which he submits the plan of a Professorship of Public Economy, Commerce, and Statistics for our Colleges and Universities. The plan has our hearty approval, and will, we trust, ere long be adopted by some of our higher institutions. The article on 'Charleston and its Resources,' we shall endeavor to find room for in a future number of this Magazine."

From the New Orleans Commercial Times.

"De Bow's Commercial Review.—This able exponent of the position, exigencies, prospects, &c., of the trade and commerce, the agriculture and manufactures of the South and West, comes to us in its present issue in a double form, containing the June and July numbers under one cover. There are fifteen original articles, each of which has its particular merit. They treat of subjects embracing almost every interest connected with the development of Southern and Western prosperity, and we may add, indeed, in reference to the first article, of Southern and Western refinement. Article No. 5 is eminently deserving notice, as the matter brought forward in it is of a character that imperatively addresses itself to our most prominent interest. Shall not Commerce have a chair in the newly established University of Louisiana—Commerce, the all-in-all of our wealth? We concur with the editor, that without a Professorship of 'Statistics'—a science embracing such a variety of subjects, all united under the head of Industry, in its various applications, remote and near—the University will be comparatively a lifeless, inert mass, while 'STATISTICS' will strip it of its monkish dullness and passiveness, and invest it by its practical quality, with that vitality which shall be, and is, characteristic of our age and nation. The whole publication, in its several departments, evinces talent and extraordinary industry."

From the Concordia Intelligencer, of Louisiana.

"The great industry and ability with which this periodical has addressed itself to the wants and practical interests of the people of the South and West, have secured for it a high and established reputation, and many powerful and zealous friends among the most enlightened and productive classes in this and contiguous States. Already have many articles appeared in it which have been deemed of inestimable benefit to those engaged in Sugar and Cotton culture. Of some of these articles, it has been said by citizens of Louisiana, distinguished alike by their private excellence and public zeal, that each of them was worth the subscription price of twenty years to the work. Their value is not imaginary or prospective, but immediate and real, and comes home to the daily pursuits of the planter and merchant and all interested in increasing the wealth of the South-west.

"The Review improves with every succeeding number. It has been greatly beautified in typographical execution and otherwise lately, and is now one of the most handsome monthly periodicals in the world, as well as decidedly the most practical, laborious and useful publication of the kind with which we are acquainted."

☞ ***A splendid steel engraving of Stephen Girard accompanies the September No.—the first of a series of "Eminent Merchants."***

H. LONG & BROTHER,
32 Ann Street, New York.

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COTTON AND THE COTTON PLANTERS.

So far as agricultural experiment has accompanied the researches of man into the productive capabilities of the different portions of the earth, it seems to be settled, that in the United States of America there is a small parcel of ground destined to supply the world with Cotton. Great efforts have been made to extend its cultivation into different countries, but hitherto the same parallel of latitude, soil somewhat similar in some respects, and climates not greatly dissimilar, have been appealed to in vain. A small sickly production, with frequent total failures of crops, and for the most part a weak and almost useless fibre, has been the reward of enterprise and industry in attempting to cultivate cotton beyond the little strip of land composing S. Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Texas and a very small portion of Tennessee.

The fact that this small portion of land has mainly to supply the world with cotton, is at *present* not very important, for it does not require the whole of all the available land in it, to do it with ease. But when we reflect that as yet, *cotton is just beginning to be used a little:* that half the world has scarcely heard of it even as an article of clothing, and that there are yet large channels of consumption in which it must supercede some of the various kinds of hemp, flax, bark, wool and silk, in the fabrication of cloth for various purposes, the mind reels and hesitates in attempting to anticipate the demand for cotton in even twenty or fifty years from this time. Before long six hundred millions of people are to be *clothed* chiefly in cotton, which alone will require seven or eight millions of bales. A like quantity will be required to supply all other household, agricultural, mechanical and commercial purposes; and moreover, *the navies and merchant vessels of the world are to be clothed mainly in cotton.* Who then, can anticipate, or who dare to write, statistically, in regard to the wants of the world in this respect, when cotton shall have gone into general use?

And what else have we recently seen and heard? Science tells us that hereafter *gunpowder, for all explosive purposes, is to be entirely superceded by cotton!* If this be so, (and if well attested facts can be relied upon there seems to be no good reason to doubt it) a very large, and surely a very novel channel of consumption is to be opened very soon.

There are two great facts that seem to be apparent:—First, the consumption of cotton in the world is to increase greatly for fifty years to come, and secondly, this increase is to be in the United States.—For it seems, as before observed, that cotton can only be raised profitably or advantageously here. Why this is so, is foreign to our present purposes, but that there is in this question some strange facts, is very apparent. In the wilds of Mexico, beyond the Del Norte, cotton is indiginous, or is supposed so to be; and yet it cannot be *cultivated* there to advantage. It is known to grow in parts of that country hundreds of miles from any habitation, and yet it requires to be transplanted to the Gulf of Mexico, in order to be cultivated advantageously. The time is coming then, and may not be a generation off, when every acre of *cotton land* will be looked upon with interest, and when the cotton region will be a region of health, wealth and prosperity.—Cotton planters have a brighter prospect before them than any other agriculturalists. Growers of food may be better paid now, in some instances; but the principle articles of FOOD will grow any where—while CLOTHING, the other great article of human consumption, will grow no where else but *here.*

Whether we regard the cultivation of cotton then, as it exists at present, or in its prospective appearances, it is the most important branch of agriculture in the world; and yet we may venture to believe that it is prosecuted with less economy and enterprise than any other considerable branch of business in our country. There is a slovenlesness about it, almost universally seen, that is really unaccountable, since it is admitted that cotton planters are among the most intelligent and well informed of our citizens. Why it is that agriculture is so far behind the enterprise of the age we live in, cannot be told—nor are we able to tell why cotton growing is so far in the rear of the very slow march of the other branches of agriculture around us. But that it is so, is but too apparent. If it was not in *too bad taste*, I would just allude here, by way of parenthesis, to my negro man John. He is the best fellow to work in the world, but never knows or cares *what* he is doing, or *how* he is doing it; to *do enough of it*, is his sole aim. It is hoped the refined and intelligent planter will pardon this unseemly piece of pleasantry.

The cultivation of cotton, as a branch of productive industry, ought to take the lead in agriculture. But instead of this, it lags lazily behind every thing else. The fact, that unlike other articles it cannot be raised in different climates or lattitudes, shows the similarity that would be observed, were the best plans generally adopted. It is a fact, too, that there is a much greater diversity in the profits arising from cotton plantations than from other agricultural investments; for while some yield large profits others do not pay expenses. And it is also true that the cotton we sell at the lowest range of prices, costs us nearly as much as that which sells at twice the money. Another reason why cotton growing ought to take the lead in agriculture, is, that with us, it is more of an exclusive business than the product of any one article is with the farmer of the West or North. And moreover, it is supposed, that without disparagement to any, it may be assumed that cotton growers, as a class, are more intelligent and better informed than the mass of farmers generally. We do not say they are more intelligent *farmers*, or better informed *in their business*—that is the very thing complained of.

As a proximate cause to these disadvantages under which the country labors, one or two things may be hinted at. There is among the cotton planters no dissemination or concentration of professional knowledge or practice. No means are in use—no money is expended to conduct an interchange of opinions. The views, theories and experience of one man, be they ever so sound and valuable, are of no public utility whatever, and consequently, in many instances, of but limited benefit to himself. Every farmer lives in an agricultural world of his own. He is monarch of all he surveys, but holds no communion with the rest of the world. His fence is his Chinese walls, and his grandfather's ghost is his emperor. The *man* goes abroad often enough, but the *farmer* never. It is thought by many that at this time it would be greatly to the advantage of the planter if the amount of the crop could be known. Well, most certainly the number of bales could as well be counted on the first of November as July. At the middle of March next every planter ought to know precisely the number of acres of cotton, corn &c., to be planted the next year, with a thousand other items of profitable information. Look at commerce, with his thousand cohorts his million of couriers and his army of printers! a merchant scarcely thinks until every other merchant catches the sound and profits by it. Every mercantile operation is influenced, more or less, by every other similar one, all over the country. Merchants act advisedly—farmers in the dark. How many agricultural newspapers are there in the country? Two or three seven-by-nines, starving for patronage! When and where do agriculturalists assemble for consultation. Who legislates for agriculture? Who pleads her cause or sustains her interests? Are we not content with the notion that agriculture, like a town in the country I once heard of, is *finished?*

Again it might be stated, that farmers are opposed to innovation. There is almost an organised opposition to change or reform in any particular. A slight modification in a plough or a hoe, once in a great while, might possibly be tolerated; but any kind of change in plan or arrangement—any doing of a thing different this year from what it was last, or from what "every body always done it," is "*theorising,*" the highest crime known to the laws forbiding innovation.

Considering then, the many positive and negative disadvantages under which the cotton grower labours, is it not strange that a spirit of enterprise and economy is not cherished and prosecuted more than it is? Allow then Mr. Editor, to be pointed out, some of what are conceived to be the most glaring and easily remedied errors under which our business labours, and which may probably result in part from some of the above named disadvantages.

In relation to THE GROUND WE PLANT there is much room for reformation. *To wear out land*, or to make it *grow poorer* by cultivation, is unquestionably bad farming. We know that agricultural chemistry is too young to enable us to apply science properly in this respect; yet we all know that the propogation of particular plants requires the use of particular properties in the soil; and as these properties become exhausted unless they be restored the land becomes poor. Now, obviously, the proper course is to restore to the land as much as practicable of *the same thing* we take away. That portion of the product we send to market we cannot restore *in kind*, but surely we can and ought to restore all the rest. The best vegetable manure certainly is that which the land produced, especially if the same crop is to be raised the next year.

But instead of that we see many persons refuse even to let the land have the cotton stalks back again, but actually *burn them up!* The seed too, are in many instances as unjustly withheld, or if restored at all, it is after the rains of a winter or two have destroyed the most of its fructifying quality. That which we necessarily remove from the soil, and cannot therefore restore in kind, we can easily restore in some other way. In fact if we afford the opportunity Nature will do it herself. Land has a resusitating and invigorating tendency, or in other words Nature is constantly endeavoring to bring back impoverished land to its original state of richness. This supply of that of which the land has been robbed, is derived chiefly from the atmosphere; and if the land be placed in favorable circumstances it will soon obtain a sufficient supply. To this end land should be suffered, as farmers say, to *rest* a year or two. But it is not enough in order to rest land that you merely cease to cultivate it; because its rest may be greatly disturbed. It cannot repose much with its bosom exposed to a summer's sun. Nor will its slumber be healthful or invigorating with the same crop of weeds or grass growing on it which heretofore, from year to year, have been *cultivated*, or suffered to grow in the process of cultivation. The way is to give the land a coating of something, the growth of which requires chiefly other properties of the soil than those already exhausted, and with such verdure as it can support easiest, it will acquire, upon its surface, that degree of humidity necessary to a favourable supply of atmospheric food. Chemistry, were we sufficiently acquainted withit, would immediately point out the proper article for this purpose in every particular instance. But in our lack of knowledge here, we must depend upon experiment. After cotton we usually sow rye, or after corn, oats.

But the great difficulty in all this is that most planters plant all their open land every year. We lack twenty-five per cent. of having enough land open, and plant twenty-five per cent. too much of the land we have open. What is called over-cropping is a very common fault with the cotton planters, and results in great disadvantages; a less quantity of land cultivated better, will produce a greater amount of cotton. And moreover, the same number of bales of cotton, on a less number of acres of land; requires less labour in picking. And the picking of cotton being more than one-third of the whole labour requisite to produce it, this is a very important consideration. It is a very uncommon thing to see a cotton crop cultivated well, throughout the season. Nine-tenths of the cotton crops suffer for the plough and hoe during three-fourths of the growing season. How much room for reform is here!

One of the greatest disadvantages under which the cotton planting labours, is in regard to THE SEED WE PLANT. The popular notion is that seed runs out very rapidly, or in a few years, and that a fresh supply of "*Gulf seed*" is necessary to take a new start from. Again, we hear that changing seed among different plantations, or to and from different kinds of soil, is of great advantage; and again that seed two or more years old is far preferable, for that then the poorest seed will not germinate. To expose these egregious whims and set forth what is deemed the correct reasoning upon the subject, it is not necessary for us to speak of any particular variety of cotton grown in this country, but to state principles equally applicable to all.

What is *Gulf seed?* The writer has had an extensive agricultural correspondence for the last year or two, chiefly on the subject of cotton seed, and in many letters from planters all over the cotton region, "gulf seed" are spoken of in contradistinction to the seed of the common cotton of the country, and is considered far superior. The former is worth fifty cents to a dollar a bushel, and the latter as much less than nothing as the value of the labour requisite to haul it away! There are several varieties of cotton in this country,—first the great mass, which may be called the common Mexican. Then there are several other kinds, varying slightly from this which have acquired each a separate appellation among planters in the respective neighborhoods in which they are grown. Then there is the Mastodon, varying materially from all the above. But there is no "*gulf cotton*" or "*gulf seed*" different from that which every man has on his plantation. The *name* is in almost every man's mouth, but it has no representative. But how came about the idea so extensively of *gulf seed?* On this wise:

In the early history of cotton growing in Mississippi, a few intelligent and thrifty planters settled in Jefferson county, near where Rodney now stands: which place was formerly called "Petit Gulf," from an eddy in the river just above the landing place. These planters were among the first who cultivated the Mexican cotton, now chiefly raised, and which we all know superceded the old *black seed*, about thirty years ago, or a little upwards. And they understood and practiced the correct theory of saving cotton seed, better than most of their neighbors. New farmers were coming into the country, and the Hunts, Magruders, Freelands and a few others were ready to supply them with better seed than could be procured elsewhere, because it was *saved better*, and being shipped at the Petit Gulf it after a while acquired the name of "Gulf seed." For many years better seed could be procured from the "Gulf" than elsewhere, for the same reason just stated; and subsequently from other parts of the country, hundreds of miles distant, seed was sent to Rodney in order that it might thereby become "Gulf seed," and which was no doubt really as good as the best. Thus it is that thousands of planters have paid hundreds of thousands of dollars, to a few other planters who could see and think, for cotton seed *of the very same kind they had themselves* in the most profuse abundance. And if the purchased seed was any better than their own, and no doubt it was, it was only because it was *saved better*. Of the common Mexican seed it may be truly said, that there may be as good seed raised on any plantation, from the seed now on it, however much it may be *run out*, as can be raised on any other plantation, however recently it may have been supplied with fresh "gulf seed," or, however near it may be situated to Rodney. The extreme north or south ought, perhaps, to be excluded from this remark.

And we are perhaps now called upon to explain how it is that such great advantage is derived from some particular mode of saving seed; or what is the same thing, explain how seed sometimes *runs out* or *depreciates*, while other does not. And it may here perhaps be admissable, as it will answer our purpose as well as any way, to insert a small paper heretofore published by the writer on this subject.

"I have been frequently asked in relation to the Mastodon Cotton, "*Will it degenerate?*" This is considered an important question by many persons, and not a few, I should think, consider that the future success of this cotton depends mainly upon this point. It is strange that a great error in regard to this matter has become so popular. A farmer in the South, in my opinion, ought to know better than to ask any such questions. It is preciseiy as philosophical as it would be in relation to ahorse, *will he become poor?* With plenty of hay and oats and good care, I should say he would not. But in the absence of these, I think there would be much danger that he would. The cotton seed notion of "*running out*" is entitled to the same kind of an answer, and upon the same philosophical reasons. We frequently hear a farmer say, "*My cotton seed has run out.*" Yes, sir, and if you have been as careless in relation to your pasture-fence, your cattle and sheep have "*run out*" also.

The truth is, there is a very great error abroad among farmers on this subject, and if its correction can become general, immense good will result from it. Otherwise, a few will, as they have heretofore done, realize great profits off of the mass, because of the ignorance or lack of enterprise of the latter.

There is certainly no peculiarity in this respect that can attach to the Mastodon cotton that is not common to all cotton. To the question, then, "Will it degenerate?" I reply, it most certainly will. Not only will it become mixed up with other cotton so as to lose its identity, but it will itself *depreciate* or *run out* so as to be of little or no value. And on the other hand, I say, it most certainly will not, but will retain permanently, at least as high a maximum point as it has ever arrived at. And I think it likely that it may be considerably improved. In careful hands it will not depreciate—in careless hands it certainly will.

What is degeneration, or "running out" in cotton seed? And what is the cause of it? These are the only questions that need to be answered, and certainly, it seems to me, they are very simple. *It is the production and continued reproduction from the smaller and less perfectly grown seeds.* And how is it to be prevented? *Use the large and full matured seed exclusively, to produce from.*

There is on every stalk and in every boll of cotton some seed which are large, full grown, and of vigorous stamina, whilst others are smaller in size, imperfectly matured, and consequently weaker in stamina.—These differences in the same boll are perhaps very slight, but in different bolls on the same stalk, very perceptible, and in different stalks in the same field still more so.

Suppose, then, you take from a single stalk of Cotton one half of its bolls which are the largest and best, and from these bolls you select the best seed. On the other hand, you select from the poorest bolls the poorest seed. These two parcels of seed are the product of single seed, and are now planted in separate fields. From the cotton growing from the large seed you continue to select and plant from year to year the best seed, and from that growing from the poor seed, you pursue the contrary course, and produce from the poorest seed from year to year. After three or four years how will these two fields of Cotton compare? The one will unquestionably be perfectly "run out," and the other will have *run* considerably in a contrary direction. This I undertake to suppose is very common sense, and accords fully with the experience of every man every day. And yet with this full knowledge of all the facts and theory before us, there seems to be comparatively few who bring their minds fully up to the very great and apparent propriety of excluding these lesser seed occasionally as they make their appearance in any considerable quantity. The trouble and expense of excluding imperfect seed is far less than is generally supposed. It depends, however, upon circumstances. If you have a large proportion, half or two thirds, as is generally the case, of poor seed, it is considerable trouble to pick out the good seed. But if there is but little depreciation and but a few green, black or small seed in the mass, mostly of large white seed, it is but little labor to select them out and throw them away.

A very large proportion of the Mastodon seed which was sold last year, was greatly mixed with other cotton—that is, the fields were replanted with common cotton, mixing it through in the proportion of a third or a quarter; and in other instances it has become more slightly mixed. Besides this, there has, I presume, been, generally, the whole mass of seed used to produce from. The process of carefully excluding the small and imperfect seed has not yet been commenced so far as I know, expect by my self and one or two of my neighbors. It is high time, then, that it now, in every instance be set about, and where it is not too much mixed it can be thoroughly reclaimed. For my own part, I have not the least idea of planting hereafter without carefully picking my seed over by hand every year. Then it is not only certain not to deteriorate but will come up to as high a maximum as it will bear.

It is quite probable, also, that a scientific examination, thoroughly made, into all the botanical principles of the plant, and with the chemical principles of its production with us might illustrate facts not so near the surface of observation as those I have stated, and which would show other lateral causes of depreciation. For instance, cotton, as is the case with every other species of plant, requires not only a particular climate and atmosphere, but particular proportions in the soil, and peculiar modes of cultivation at all the different stages in its growth; and there requires in all these a perfect system of adaptation and correspondence, in order to the most perfect product. Now, our rough system—rather the total abuse of all system—of cultivation, consults none of these things, and, therefore, we lose al the means we might otherwise have of preserving all the valuable properties of the plant. These observations will apply with more force to plants cultivated in soils and climates where they are not indigenous as is our cotton. But in our present rough and crude mode of cultivation, it will answer all practical purposes to exclude the smaller and most imperfect seed, and cultivate those most healthy and of stoutest stamina.

Persons may, with the greatest possible ease, determine as to the degree of purity of their Mastodon Cotton seed. Every seed that is not *large*, *white*, and *woolly*, is an interloper or a half breed, and should suffer instant expulsion.

It cannot now fail to be seen that every man ought to have as good seed as his neighbour. And if he has not it is his own fault.

Experiment has abundantly shown that different kinds of soil except you go far North or South, does not very materially change the character either of the cotton or the seed. The best and most careful planters have the best seed, and usually the best cotton. And whether they live a mile, or ten or a hundred miles from Rodney in Mississippi, is not very material.

The idea that cotton seed is benefitted by itinerating among different plantations from year to year, is unphilosophical, and has nothing to support it but a whim that started some where, and has been kept in use for want of a better. The *fact* of such benefits by change, from one place to another, is not doubted, but the *reasons* therefor are to be found in the principles stated above.

It appears then obviously proper that in regard to THE SEED WE PLANT, we should first obtain the best seed in our reach, or such as we prefer, if we have it not, and then *keep it as good as it ever was* or make it *better*, if practicable. A strict and universal adherence to these principles will, in the opinion of the writer, save hundreds of thousands to the cotton planters of the south. He has been strongly urged to with hold the publication of these views, upon the ground, that as far as they may become, known and be acted upon, it will have the effect of injuring a profitable seed market. This is an other question, into which he has not stopped to enquire. The views are believed to be well supported both by reason and experience, and if so they are certainly worthy of observation.

Another impediment of great magnitude and of extensive disadvantage is in regard to THE PREPARATION OF COTTON FOR MARKET. This consists chiefly in *picking*, *gining* and *baleing*.

The great improvements that have been made in Cotton Factories in cleaning Cotton, and preparing it for the spindle, ought to indicate to us that one of two modes, widely different from each other, ought to be pursued in picking. The lower qualities of cotton are not enhanced much in value by keeping the cotton very clean of *trash* or leaf. The manufacturers can clean it sufficiently for coarse fabricks much cheaper than we can. And on the other hand, pretty good or fine cotton, if somewhat trashy, is lessened in value materially thereby.

We should then, when we *go in*—as we say in the country—for fine cotton, take pains in picking, keep it clean, suffer it to remain in the field the shortest possible time after opening, and handle and gin it with great care. But in any portion of the crop when this should become unproffitable, we ought to go to the other side entirely, or nearly so, and *go in* for the greatest quantity. The state *of* the market, present and prospective, and the condition of the manufactories seem to point out this course.

Far too little attention is usually paid to GINNING COTTON. For many years past the rage has been for fast ginning, and the value of a cotton gin was measured by the number of bales per day, that could be ginned upon it. In this way the value of a crop, in thousands of instances, has been reduced three, five, or eight dollars a bale rather than expend a dollar more upon the ginning. Fast ginning injures cotton more than all other defects and disadvantages in this part of the preparation of cotton for market. And yet I have seen opinions the reverse of this stated, if I mistake not, in the Review. Nothing can be more unreasonable, and nothing is more at variance with the experience of every observing planter. Next to fast ginning is the great error of using *cheap gins*. It is a very easy thing to save fifty or a hundred dollars in the price of a gin stand, and then as a consequence very probable, loose five or ten dollars a day while you use it. A cotton gin requires the most perfect mechanical precision in all its parts. Small objects are as fatal to making cotton as large ones. Nothing is more familiar to a cotton merchant than this, that two samples of cotton are separate twenty or thirty per cent. value by the mode of ginning alone. And yet to make a planter believe this, who is alone interested in the great and important truth, you have to thunder in his ears loud enough to wake the dead; and then oftentimes the first cheap gin manufacturer can soon dissipate all his anxiety on the subject, by offering him fifty dollars to injure his five successive crops five hundred dollars each.

It was stated in the September number of the Review that *Carver, Washburn & Co.* of Massachusetts were making gins designed expressly for Mastodon cotton, and some of them would be tried in Mississippi and Louisiana this fall. The writer has now the satisfaction of saying that these experiments have resulted as advantageously as was anticipated. They are highly approved of in every instance, so far as is known, and are believed to be the best gins now in use: certainly much the best the writer has seen.

The next process is to pack the cotton into BALES for shipment. The circular which the writer received from the Editor last summer contained some inquiries on this subject, and it was then briefly attended to.

The present mode of packing cotton, on the plantations, results in a direct and immediate loss to the planters, of a sum fully equal to the whole amount of expenses, direct and indirect, of repressing the bales at the sea ports. So great a truth as that, if it be true, deserves to be repeated with an emphasis. The position cannot be successfully controverted. And although it has frequently been stated by several of our most intelligent planters, it is not known that any man has ever undertaken publicly to call its truth in question. It is unhesitatingly asserted that the same expense and labor now generally used in packing cotton, will, with a little modification in the process, together with the substitution of good presses for poor ones when it is necessary, put the cotton in better shipping order than it generally comes from the Presses in New Orleans or the other ports. And moreover by the putting of bales in shipping order at the gin, several other important advantages wi accrue to the planter. These may appear very bold and hazardous declarations. They would not be made, most assuredly, but for the consciousness of the great ease with which they are capable of being maintained.

But how is this truth to be proved? It seems to be rather a question of fact and veracity, than of argumentation. The simple fact is, that it is less labour to pack bales with a good press, 22 inches square, 4 feet 6 inches long, weighing 400 pounds, and bind them with iron hoops, (when they are in the best shipping order the cotton is capable of being put in,) than it is to put them up in the usual mode, when they not only regain all the expenses of repressing but other additional expenses of freight, &c. &c. It is difficult to prove this on paper, but any man to have been on this plantation yesterday, would have been compelled to know that all here stated is strictly true. The only remaining question then is, whether there are any collateral, indirect or incidental disadvantages arising from putting bales in *shipment size* and banding them with iron, to hold them firmly there at the gin? This will be looked at presently; but first, assuming that there are none, how does the case stand? The first object that strikes the eye is the payment to the citizens of the seaports, by cotton planters whose cotton is shipped thence, one million of dollars annually, for which the latter receive *no benefit.* Is this a matter unworthy of thorough investigation? Should it call forth the *attention* of planters or should it not?

Are we the guardians of our own interests or are we not? What is enterprise, and what is it for? and what are the disabilities of industry without it? Are we to learn nothing? Does the *law* against innovation absolutely and unconditionally require that we shall *always* carry the stone in one end of the bag and the meal in the other? Are we wedded indissolubly to the crude blunders of early processes, or may we walk out like a grown up man, with his eyes open, profiting by past experience, and look and see where is the best place to put his foot next? Cannot the strides of valuable improvement that commerce and mechanism is making every day around us, stimulate us a little? Has emulation left us quite?

It is assumed that 25 to 30 pounds to the cubic foot is as small as cotton should be pressed. Greater pressure than that would probably injure the cotton, and that being quite as small as it usually comes from the presses—New Orleans, say. 4½ feet long, 22 to 24 inches square, for bales weighing, 400 to 450 pounds. The cotton must not only be put into this size, but the bales must be so banded that they will not enlarge. Bales of this kind, well put up, may be considered of *shipment size*, or in as good *shipping order* as the cotton is capable of being put in.

Now, the question is, can every planter put his cotton in this condition with the same labour and expense now bestowed upon it? The affirmative is so simple a truth that it not only cannot be successfully opposed, but no man can examine carefully into it and doubt for a moment. Then why do we not all do it? Why do we employ thousands of men, agents, clerks, labourers, draymen, warehouses, machines, makers, &c., &c., to do for us that which we can do for ourselves without the expense of a desire? Why do we do this? The answer is plain — because our fathers did so — Because we did so last year. No other answer than this can be given. And thus it is that we, year after year subject ourselves to these exceedingly onerous disabilites.

Some explanation of the *process* by which cotton is thus packed may not be amiss, as there are many who have not thought much on the subject. There is a great error abroad as to the amount of power necessary to put bales into shipment size, and it is not unfrequently the case that bales are put mainly or quite into the proper size, but the elasticity of the hemp ropes put upon them suffers the bale to expand one third or more, when the presses at the ports have little else to do than press it back again where it was originally, and the ropes being perfectly distended, and being retied, hold it there.

A *good* Newell press, especially the large size screw, which of late is going into general use, or any press of about that power, is sufficient to press cotton into the size indicated. The difficulty is not in pressing the cotton small enough, but in keeping the bales firmly, at that size. The only way in which this has been known to have been done, is the use of IRON HOOPS. The best and easiest mode, of using the hoops is not be presumed to be taught or explained here but it is confidently believed—nay, it is certainly known, that bales may be packed with the use of them with greater facility than is usual with ropes, so far as some little experience in both, with the writer has led him to observe. And if his experience may be attended here, it is advised first to *get ready*. This item of instruction, in this form, I obtained from my overseer, when describing the process to a neighbor, and it is considered too valuable to be left out of these observations. First, get ready, and you will have very little difficulty afterwards.

A very important thing to be attended to in the process of getting ready, is first to obtain the proper kind of iron. The iron should be *sufficiently strong*, but not *unnecessarily heavy*. The size most approved is about three quarters or seven eights of an inch in width, and about number eighteen, of the wire guage. This will weigh about a pound, or perhaps a little over, to the band, which is the weight of rope that is tolerably small; so that the weight of iron and rope are about equal. Then if the iron be *very soft*, it will have sufficient strength.

The next thing is to cover the iron, so as to give it a handsome black, glossy, or jappan appearance. The chief advantage in this is, that it gives the bend a handsome appearance. It also prevents the possibility of the slightest *rust*. It is confidently believed that the raw hoopison could not, under any circumstances, afford rust in quantity sufficient to do the least injury to the cotton or bailing, although this has been stated in New Orleans by those whose interest it was to discourage the use of iron in this particular. But be this as it may, the process now about to be decided will, as observed, perfectly prevent the slightest rust, and at an expense next to nothing. For this purpose *coal tar* is used, which is bought in New Orleans at five dollars a barrel. Not over a gallon or two will be required to cover iron enough for a hundred bales. It is applied in the following manner. Take a hundred or two of hoops and place them in a pile spread a little, and elevated six or eight inches from the ground upon blocks. Underneath is put a light fire of shavings or other light material, so that the hoops are heated, equally all along the pile, to a degree of warmth so that they can barely be handled in the following manner. The operator, having a small tub of tar along side, wraps his hands with pieces of blanket, or something of the kind, several thicknesses, tying them about his wrists, so as to form a kind of mitten. These he saturates in the tar, and taking up one piece of iron at a time draws it from end to end through his hands, and drops it in another pile. He thus proceeds, removing the pieces quickly, from the pile over the fire to the other, taking care to let the piece pass its whole length through his hands, and seeing, meanwhile, that an equal fire is kept up under the heating or hot pile, and that they are kept so hot as to require him to handle them pretty fast to prevent burning his hands. As the iron cools the tar becomes perfectly hard, black and glossy in appearance. To cover, in this way, hoops enough for a hundred bales, requires the labor of a negro but a few hours.

The rivets are purchased already made, and if the holes are not already punched in the hoops (which ought to be the case) you require a good punch, such as blacksmiths use, and a punching block, you also want a riveting hammer; the puncture in the riveting tool of course being the size of the rivet, as also the punch. These four tools can be made by any good blacksmith. In punching the iron, care is to be taken, that when the ends come together, the two smooth sides of the hole will come together, and the two feather sides outward; you then bend the two middle corners of the hoop, forming the two squares upon the back side of the bale, so that the hoop is to be introduced to the bale from the back side of the bale, putting both ends through, above and below at the same time. The rivets are also put in its place in one of the holes, when the hoops are ready for use, and are placed in a pile on the back side of the bale. All this is done before you commence baling. You then want a bar of iron four inches wide, and half an inch thick, and probably seven or eight feet long. When the doors are thrown open and the follower down, this wide bar of iron is placed lengthwise along the middle of the front side of the bale, where the ties come, it falls into latches prepared for it, and hugs closely to the bale; and you are now ready to put on your hoops. The hoops are all first slipped in from the back side. The man on the front side with his tools at hand, bends the one end up and the other down, and they of course meet on the bar of iron. The head of the rivet is inward next the iron bar, and the other end of the hoop is slipped on, the outer end of the rivet and with the riveting tool is driven up to its place firmly, when nothing remains to be done but to batter down the end of the rivet. The man handling the riveting hammer will soon find that small quick blows, will rivet faster than to strike heavy and slow. It will be found useful for the man on the back side of the bale to use a small mallet at the corners, above and below, upon the hoop to make it hug closely round the bale, while the one on the front side is fastening it. The most of the time required in putting on the hoops is in hammering down the rivets, but a man to hammer smartly will soon head the seven rivets. When all is previously made ready; the process requires about two-thirds or three-fourths the time it takes to put on ropes.

To prepare the bagging, no bale cloth is made, you only cut off two strait pieces of proper length, the bottom the same as the top, which are all sufficient. The bales are square neat and uniform, and they make a steamboat laugh to look at them. When well marked and numbered and carefully weighed, and placed in a dry shed on the bank of the river, off the ground, clean and dry, they are *in shipping order*—the best order for transportation they can be put in.

The fluctuations in the prices of rope and iron vary the comparative value somewhat. but considering the saving in bagging the hoopiron covering will be found sometimes probably to have the advantage in price in the first instance. The iron is worth about five or five and a half cents a pound. So far, the comparative cost of using rope and iron is about equal, but after this there are several decided advantages on the side of the latter.

If the practice was uniform, or if a considerable portion of cotton was put up in this way. the cost of frieght would be materially lessened. These bales can be handled with so much greater ease, that boats can be loaded and unloaded in much less time.

The cost of insurance would be materially lessened. It is always perfectly protected against loss by fire. The bands cannot come loose so as to let the bale expand, and it would be, therefore, impossible to burn a pile of cotton, whether on a boat or in a ware house.

Cotton packed up in this mode would go to market in much betbetter order than it does now. On this point reference need only be made to the horridly, ragged and wasteful manner in which cotton for sale is now usually introduced to the purchaser. When a cotton buyer now examines a sample of cotton, he knows that the cotton he buys is not in the condition of the sample. Why? Because the bagging is torn, the ends out, several pounds of cotton is materially injured by being exposed to mud, and much of it has become trashy and worthless. In the other case he knows that every pound he purchases is *like* the sample he has in his hand. And the price he is willing to give is of course, in both cases, regulated accordingly. No man at all acquainted with this subject can fail to know, that if our cotton went to market *in good order*, great advantage would accrue to the planter in prices.

Another important advantage of putting cotton in iron hoops, and in shipment size bales, is the fact that it is always ready for shipment. It not unfrequently happens now, that much delay is experienced in New Orleans, and at the other ports in consequence of the cotton not being in a condition to transport. Parcels frequently are known to remain in port for weeks at a time—not for the want of freight—not because the cotton is not there to ship, but because it is not in shipping condition. The purchaser is thus placed under circumstances often highly disadvantageous; which on the other hand, if the bales were put in shipment size at the gin, it is always ready for the vessel the moment it is purchased. This would often facilitate sales considerably, and prices too, somewhat, for it is always a matter of great importance in a seller of any thing, to place the purchaser in the most favorable position—to clear all obstructions and difficulties out of his way, as far as possible, and to make the vended article as immediately available to him as practicable. We know that nothing more certainly or immediately affects the price of cotton in New Orleans, than the question of "*freights*." Well, how suppose you, a freight could be contracted for, to best advantage? By saying to the master of the vessel, "Sir, the cotton is ready for you, now, you can commence loading in an hour," or on the other hand: the presses will be ready to commence it in a few weeks, and you can probably in a month or so commence taking it?

This difficulty is always felt, though to a less extent, than at the sea ports, in the market, at the river towns in the interior, at seasons when the smaller rivers are not navigable. In such cases the rise and fall of water, in the fall and winter seasons, affects the price of cotton directly and even more than that sometimes. The sea freight of cotton in hoops would also be lessened, by being thus packed. The apparent reason ableness of the thing as well as conversations with several sea captains, have abundantly demonstrated this position; and further, *cotton never could be burnt at sea.* It is no more labour to load two vessels with cotton in hoops, than one with the same number of bales in ropes, as they usually come from the steam presses.

The advantage of having cotton put in shipment size at the gin would be felt to a still greater extent in cases where cotton is to be only re-shipped at the sea ports, for sale in another market. In such cases there need be often but a single drayage, no warehousing, no piling in press rooms, no waiting to have it got ready to ship. The operation is performed at once, and the cotton is at sea or in market over the Atlantic, rather than receiving the winter rains of the South, being eat partially by cattle, pilfered by vagabonds on the wharves or streets, or suffering loss and damage in any of the various ways in which such things are known very extensively to occur.

The recommendation that cotton be always put in shipment size by the planter himself, at his own gin press, is not so wild a stride of innovation as might be supposed by those who have not *thought* much on the subject. A few years ago it was impracticable, but now it is quite easy. Cotton was sent to the sea ports, to be repressed there and steam presses erected there for the purpose, because the plantation presses could not do it, and the practice is continued because it was commenced, not because the same reason still exists. But within the last fifteen years, great improvements in plantation presses have been introduced, and still greater improvements are being made. It is not presumed that every plantation is now furnished with a suitable press for their purpose, but it is confidently asserted that every plantation can easily so supply itself. The present condition of machinery of this kind is such that the power of two horses is sufficient for the purpose indicated. The writer does not pretend to be acquainted with the most approved kind of plantation presses now in use, but he does know enough to justify the above remark. He is now using a press of a kind not approved by himself; it is a single wood screw, but with it there is no difficulty in pressing *mastodon* cotton to the size indicated with two mules, and it is to be observed that the mastodon in consequence of the *body* and firmness of its staple, is harder to press than the common Mexican. The largest size Newell screw cannot fail of exerting sufficient power. And the *Bullocks Patent Press*, if it is capable of receving a box of sufficient length, will no doubt be found far preferable. With it one mule will give sufficient power. If the expense of erecting such presses is thought an objection to this introduction, it may be stated that the wood press above alluded to, cost one hundred dollars, besides getting out and hawling the timber. The large size iron screw will cost perhaps fifty dollars more than the old fashioned Newell press that every body has, and the Bullocks Patent will cost a hundred and twenty-five to a hundred and fifty dollars.

These evils, thus hastily sketched and hurriedly run over, deserve a loud aud long complaint. They speak in tones of thunder to the pockets of cotton growers and ought not to pass by unheeded. In the state of Georgia the oldest and until recently the largest cotton Growing state, it is astonishing to learn that at the present time *one half* of the cotton is put up for market, not in bales at all, but bundled up in something like old meal bags. The other half of the crop of Georgia is put up in the most clumsy, awkward and miserable looking bales, very seldom in passable shipping order, these are called "*square*" the other "round" bales. Both kinds are indescribably shapeless, but the packing in the "*round*" bundles is so excessively miserable that the regular mercantile deduction from the market price of such cotton is *half a million of dollars annually!* This deduction is over and above the next deduction consequent upon the "*square*" bales not being in shipping order. Is there here no room for reform?

The Georgia and South Carolina and Florida planter, who thus ties his cotton up in bags, loses money enough *every year* to put up a press at a cost of a thousand dollars, and the Alabama, Louisiana and Mississippi planter will also save money enough *annually* to pay for a press, by putting his cotton in shipment size. Large planters will save five or ten times the cost of such presses.

The present condition of our business, calls for *immediate* reform. The ravages of the cotton worm the present season, admonishes the planter to look around him. To cultivate a certain number of acres of land, in cotton, or to put a given number of bales into the hands of a commission merchant are not the only questions to be inquired into, nor yet are they the most important. To realize the largest amount of nett money from a given amount of means invested, looking carefully and economically into all parts of the operation, is the part of wisdom and enterprise.

There are many other matters farther in detail, which belong to this subject, but which might be deferred, at least for the present. The object here has been to excite attention, to superinduce thought and enquiry, rather than to teach or instruct. If any thing herein, therefore, may have the effect of arresting the attention of a few men of inquiry and enterprise, of more influence and ability than the writer, he will feel a thousand times rewarded for having taken a little time from the hurry of other employment to throw these remarks together.

ART. II.—LOUISIANA HISTORICAL RESEARCHES.

The decease of the venerable Martin, is an event of deep interest to every Louisianian. Judge Martin as a jurist, was an ornament to the State and would have been an ornament to every bench in the world.—He died full of years and honors. The Historical Society has cause to mourn its President, who though old, decrepid and blind, manifested such an interest as to be present, and preside at its deliberations. We hoped to have had him long among us. But the longest career must terminate·

Our object, however, in the present instance, is not to dwell upon the memory of the departed; but to fix attention upon that which exists. We would call the attention of Louisiana, and of the southwest, as we have on previous occasions, to the existence of an association organized among us, for the collection of all documents, facts, etc., relating to the deeply interesting, history of this great region. It is in contemplation to have several lectures before the association this winter.—That the objects and mode of operation—that the outlines of the plan may be understood we have concluded, to furnish the reader the highly valuable and eloquent address which the Hon. Henry A. Bullard delivered several years ago. It must be appreciated every where, and read with the deepest interest.

To minds exclusively devoted to the pursuit of wealth, and bending all their energies to that single purpose, it would seem a startling proposition, that there could be any thing either of interest or utility in inquiries into the history of the first discovery and settlement of Louisiana by Europeans; in rescuing from threatened oblivion the records of its first colonization; in efforts to bring to light and to perpetuate by means of the press, all such documents as would form the elements of an authentic history of our multiform population, and the successive changes in the forms of colonial government, and the progress of its settlement under the different sovereigns who have successively ruled this country. But the time has arrived, I trust, when pursuits of a character purely literary, will have their value among us; when those who engage in researches, having only truth for their object, although barren of immediate results, will be regarded as contributing in some measure to the public good, by adding something to the stock of our national literature. As concontemporary history is liable to be discoloured by interest, by prejudice and passion, each generation as it passes away, is under obligations to its successors to furnish them those authentic materials by which alone its true character can be known to posterity, and to perpetuate the public documents and correspondence which accompany and explain every public transaction. But we, who are enjoying the fruits of the labors, and fatigues and sufferings of our predecessors, owe it also to their memory, to snatch from oblivion the record of their actions, and no longer to leave their fame there to rest on the loose and garbled and exaggerated narrations of contemporary writers, or catchpenny authors of what the world calls history. History, as it is generally written, is at best but an approximation to truth, I had almost said, an approximation to probability. It is true, the exaggerated and marvellous statements of travellers, or discoverers and settlers, as to physical features and productions of a new country, and the character of its aboriginal inhabitants, may be corrected by subsequent observation and experience. The width of the Mississippi, for example, below this capital, has dwindled from a league to less than a mile; St. Louis is no longer in latitude 45 North, and 276 longitude; quarries of emeralds, silver mines and gold dust, are no where to be found in Louisiana. But the narratives of events and transactions, by real or pretended eye-witnesses, or by the authors of histories and memories, can only be tested by reference to authentic records, or by their own intrinsic evidence of falsity or truth. This latter test is not always to be relied on, for the true is not always probable. Tradition, ornamented and coloured by fiction, has proved from the earlest records of our race, a large ingredient in the composition of history. Hence the origin and early annals, not only of the people and states of antiquity, but of many of comparatively modern date are involved in mystery and fable. But it would be a matter of just reproach, if a people, whose first lodgment on the continent was made long since the discovery of the art of printing; whose entire annals embrace a period of the highest civilization; if such a people, I say, should suffer to perishthe monuments of its early history, and the mists of fiction to settle on its origin and progress.

In many of the states of this Union, of British origin, historical societies have been organized, whose labors have been eminently successful. A mass of materials has been accumulated and preserved by means of the press, which excludes the possibility of future misrepresentations in regard to the true history of the country, and the times to which they relate. It is singularly interesting to look at the conduct and character of our ancestors through such a medium. We see them as they were; we hear them speak the language of their own age, we are brought in immediate contact with the founders of our rising empire; we trace the gradual progress of their settlement, from the sea-board to the interior; we witness their privations, their sufferings, their unflinching purpose and constancy of purpose. At a more recent period, we are introduced into the primitive assemblies of the people; we observe the gradual development of those opinions and principles, which at this day lay at the foundation of our free popular institutions; the first discussed, when the threatened encroachments of power upon right were met and resisted, and the blood of the Barons of Runymeade cried out for Magna Charta, in the wilderness of a new world.

The field of research which we propose to explore, is vast and in a great measure new. It is proposed to extend our inquiries into the history of all that country formerly possessed by France and Spain, under the name of Louisiana; to endeavor to bring to light and to perpetuate by means of the press, all authentic papers relating thereto; to collect interesting traditions, private histories and correspondences, and pictures of manners; to investigate the progress of our jurisprudence; the state of religion, and the condition of the Indian tribes in that whole region. It is obvious that many of the original documents and records, relating to the settlement and colonization of that extensive region, must exist in the public archives at Paris, Madrid, and Seville, as well as the Havana; some in the archives of the former government of this city, at St. Louis and Natchez; others again at notaries' offices, here; in the parochial records of the different posts in the interior, and much interesting matter in possession of the families of some of the earlier settlers of the country. It is becoming more and more difficult every day, to bring together from sources so various and so widely dispersed, such memorials as may yet exist. It is time, therefore, to begin the work in earnest and methodically.

Before I proceed to make a few remarks on the several heads into which the programme of our proposed researches is naturally divided, let us pause and take a momentary survey of the population of the country as it exists, whose origin and first establishment it will become us to investigate more minutely in the progress of our labors. Like the rich soil upon our great rivers, the population may be said to be alluvial; composed of distinctly colored strata, not yet perfectly amalgamated; left by successive waves of emigration. Here we trace the gay, light-hearted, brave chivalry of France; the more impassioned and devoted Spaniard; the untiring industry and perseverance of the German, and the bluff sturdiness of the British race. Here were thrown the wreck of Acadie, and the descendants of those unhappy fugitives still exist in various parts of this state. Little colonies from Spain, or the Spanish islands on the coast of Africa, were scattered in different parts of the country. Such were New Iberia, in Attakapas, Valenzuela in Lafourche, Terre aux Bœufs and Galveston. They still retain to a certain extent, their language manners and pursuits. There are, in the Western District, some families of Gipsey origin, who still retain the peculiar complexion and wildness of eye, that characterize that singular race. The traces of the Canadian hunter and boatmen, are not yet entirely effaced. The Germans, I believe, have totally lost the language of their fatherland. The country of the German coast is, perhaps, the only existing memorial of the celebrated John Law, the author of the most stupendous scheme of banking, and stockjobbing, and fraud, that was ever practised on the credulity of modern times. Among the earliest concessions of land in the province, was one in favor of Law, situated on the Arkansas, and prior to the settlement of New-Orleans; he had sent over a small colony of Germans to take possession and improve it; but on the downfall of the grantee, his colonists broke up the establishment, and returned to this city, where they obtained each for himself, a small grant of land on the Mississippi, at a place which has ever since been called the German coast. The little colonies of Spaniards at New Iberia and Terre aux Bœuf, never had any written concessions, they were put in possession by the public surveyor, and it was not until long since the change of government, that their descendants obtained an authentic recognition of their title from the United States. But time does not permit me to pursue this subject any farther; these few hints are intended merely to direct your attention to it, as one of curious interest.

I proceed to submit a few remarks on some of the several heads of our proposed plan. First, The general history of the province from its first discovery to the present day. 2d, The progress of our jurisprudence and state of religion, and 3rd, the condition of the Indian tribes. It is, by no means, my purpose to attempt to give you a full view of the present state of our knowledge on these topics, much less to collate or criticise the various histories and memoirs which have appeared, even if I were capable of the task. But let us see in what particulars our knowledge is clearly defective, and whether it be probable that by proper diligence the deficiency may be snpplied, and errors or misrepresentations corrected.

The successive changes of government form, naturally, the epochs of our history. The first extends from the discovery of the mouth of the Mississippi by La Salle in 1681, frm the interior, by way of the Lakes, until the grant to Crozat in 1712. 2nd, Under the monopoly of Crozat, untll 1717. 3d, Under the administration of the Western Company, until the surrender of their grant, 1732. 4th, Under the direct anthority of the crown of France, until the final delivery of the province to Spain, 1769, in pursuance of the treaty of Paris. 5th, Under the government of Spain, until the treaty of cession in 1803; and lastly, as an integral part of the United States, whether as a territory or state.

1st. I think it cannot be controverted, that Robert Cavelier de la Salle first discovered the mouth of the Mississippi on the 7th of April, 1681. Accompanied by the Chevalier de Tonti, and a few followers, he descended from the mouth of the Illinois to the Gulf of Mexico, passing through numerous tribes of Indians, not in hostile array, but his most effectual arms, the calumet of peace. De la Salle was, without doubt, a man of great energy and enterprise, ardent and brave, sagacious and prudent, and of conciliatory manners. He appears to have been, at the same time, feared, respected, and even beloved by the natives. I should not have considered it necessary to mention this fact of the first discovery, as one well settled, if attempts had not been made to create doubts about it; if not to deprive him of that honor, and to confer it upon Father Louis Hennepin, a missionary of the order of St. Francis. In the first volume of "The Condensed Geography and History of the Western States, or the Mississippi Valley," published a few years ago at Cincinnati, under the particular head of "history," not a word is said of de la Salle having explored the course of the river as far as the Gulf, and of his having taken formal possession of the country, in the name of the King of France. On the contrary, it is asserted that in the spring of the previous year Hennepin, who had been instructed, in the absence of de la Salle, to explore the sources of the river, finding it easier to descend than ascend, had proceeded down and reached the Balize in sixteen days, "if his word can be taken for it," says the author, from the time of his departure from the mouth of the Illinois. In the next place, the author represents that de la Salle, in 1683, after laying the foundations of Cahokia and Kaskaskia, left M. de Tonti in command of those establishments, returned to Canada, and thence made all haste to France, to solicit the co-operation of the French Ministry in his views. In addition to the utter improbability of this whole story, it is completely refuted by the testimony of the Reverend Father himself. His first publication was after his return to France, and the first edition of it, is now in my possession. It was published on the 5th of January, 1683, the author being then in Paris, and was dedicated to the King of France. The work is entutled "Description de la Louisiane nouvellement découverte au sud-ouest de la Nouvelle France." He gives a minute account of his voyage from the mouth of the Illinois, to a considerable distance above the Falls of St. Anthony; of his captivity, during eight months, among the Indians of the Upper Mississippi; and finally, of his return to some of the French posts in Canada about Whitsuntide (May,) 1681. The "Privilége du Roi," for the publication of this first work of Hennepin, was granted on the 3rd of September, 1682. Not only is the author silent as to any voyage by himself down the river as far as the Gulf of Mexico, or of his having descended below the mouth of the Illinoïs, but the concluding paragraph shows conclusively, that he at that time set up no such pretensions. He says, in conclusion. "They sent me word, this year (1682,) from New France, that M. de la Salle, finding that I had made peace wtth the tribes of the north and the north-west situated more than five hundred leagues above, on the river Colbert (Mississippi,) who were at war with the Illinois and the nations of the south, this brave captain, governor of Fort Frontenac, who, by his zeal and courage, throws new lustre on the names of the Caveliers, his ancestors, descended last year with his followers, and our Franciscans, as far as the mouth of the great river Colbert, and to the sea, and that he traversed unknown nations, some of whom are civilized. It is believed he is about to return to France, in order to give the court a more ample knowledge of the whole of Louisiana, which we may call the delight and terrestrial paradise of America. The king might there form an empire, which, in a short time, will become flourishing in spite of the opposition of any foreign power."

In another part of the same work, the good Father says, "We had some intention to descend as far as the mouth of the river Colbert, which probably empties into the Gulf of Mexico. rather than into the Vermillion Sea; but those natives who had arrested us, did not allow us time to navigate the river both above and below." Here is a formal disclaimer of any discovery made by Hennepin, and an announcement that the discovery has been made by another; and yet the author of the *Condensed* History and Geography of the Western States, represents Hennepin, I know not on what authority, as having reached the Gulf of Mexico on the 25th of March, 1680, a period when, according to his own account of himself, he was struggling in a frail canoe, against the ice and currents above the mouth of the Missouri. One is tempted to repeat the reflection of Voltaire, "c'est ainsi que l'on écrit l'histoire."

Father Hennepin did not certainly much overate the great natural fertility and resources of Louisiana. But it is not a little remarkable, slow and lingering were the first attempts to colonize it, although made under the immediate auspices of the crown of France. The most superficial reader of history, cannot have failed to remark the different spirit which characterises the colonization of this continent by Spain, France and England. The Spaniard came for conquest and for gold; regarding the aborigines as enemies to God; no alternative was left them but the cross, or the edge of the sword: even submission did not save them from the most abject and oppressive servitude. France, on the contrary, cultivated the good will of the natives, and was in general eminently successfull in gaining their friendship, so far at least as relates to Louisiana; commerce with them, in the natural productions of the country, seems to have been their primary object. Trade, in fact, was the basis of her colonial policy; trade, too, not open to all her subjects, but in the hands of monopolists, by grants from the crown, and maintained in the enjoyment of it by naval and military power. The first establishments of the French were rather trading houses than colonies. The English colonies on the contrary, were for the most part the offspring of individual enterprise. The basis of their system was agriculture combined with commerce; they brought with them their household gods; they sought a permanent abiding place for themselves and their posterity; many of them, far from enjoying the patronage and the protection of the crown, fled from persecution and intolerance. They came, and as soon as private interest began to operate freely, on a soil comparatively sterile, and in a rigourous climate, the country was converted into a garden. The English colonists brought with them the germ of popular self-government; at very early periods, they made laws for themselves, sometimes in assemblies purely democratic; generally, through their representatives, laws suited to their conditions and their wants. In the colonies of France and Spain, on the contrary, except in matters of mere local police, all laws and regulaties came over the ocean. Trade in its most minute ramifications, even domestic trade, was fettered with precise tariffs of prices and profits, instead of being left open to free competition. According to a regulation established by the Western Company, 1721, the price of a slave sold to the colonists by the proprietary company, was fixed at six hundred livres, on a credit of one, two and three years; tobacco, in leaf or twist, was bought at their warehouses at the rate of twenty-five livres per hundred; rice, at twelve livres the quintal, peltries and furs had their fixed prices. French goods were sold at Biloxi, Mobile and New Orleans, at five per cent. advance on the invoice price in France; at Natchez and Yazoo at seventy per cent. profit; at Natchitoches and Arkansas, at eighty per cent. and at one hundred per cent. in Illinois. The price of wine was one hundred and twenty livres the *barrique*.

There sprung out of this spirit of petty traffic, a class of characters, altogether unique ond unknown elsewhere, called "*coureurs des bois*," half pedlers and half hunters, with a little finish of the broker. It was through their agency that goods imported from France, were pushed into the most remote settlements of the country and the Indian villages, and exchanged for the productions of the country. When I first came to this country, I knew some old decerpid men of that class; crippled, frost-bitten, and yet at an extreme old age retaining a singular predilection for that wandering, half savage life, and still dressed in skins, with leggins and moccasins.

Appended to the regulations of the Western Company, to which I have alluded, was a strong recommendation, which I mention to show how singularly it has been neglected up to the present day. The company earnestly recommend to the colonists, to cultivate silk, to plant out mulberry trees and offer as high a price for raw silk, as it now bears in the best market. They were sensible that perhaps no country on earth was better suited to that branch of industry; that the mulberry is indigenous in every part of the province and grows with great luxuriance and is among the first trees to put forth its foliage in the spring. This recommendation seems to have been totally neglected, until more lucrative staples were introduced, which now engross the whole industry and capital of the country. But the time may yet come, when the raising of silk, a beautiful branch of industry, which in fact would not interfere with more heavy crops, will become extensive, as it could not fail to become lucrative in this country.

The first colonists made two or three successive selections of a capital for their new colony, that were injudicious in the extreme; Dauphine island and the two Biloxi's, all sandy barrens. More than twenty years after the establishment, they depended almost exclusively on France, Vera Cruz and the Havana, for a supply of provisions, and in the vicinity of the richest soil in the world, the people were threatened with famine. It was not until those places were finally abandoned, after the surrender of his charter by Crozat, and a change of system under the administration of the Western Company, that the great resources of the country began to develop themselves; numerous grants of land were then made, and agriculture began to take a start. On this part of our early history, little need be said at this time; but I should be wanting to myself, as well as the occasion, if I failed to make honorable mention of the production of our best historian, whose labors have thrown important light upon every part of our history, without omitting many minute and interesting details on this part in particular. Historical literature is deeply indebted to my learned and distinguished friend and colleague Judge Martin. His work, while it evinces great labor and research, proves at the same time how scattered and fugitive are the materials employed by him in its composition, and how difficult, if not impossible, it would be for a reader to satisfy his curiosity by resorting to original sources of informatian from which the author drew. *He appears to have had access to manuscripts which have never been published, but which it is not, perhaps, too late to arrest from oblivion.*[*]

It must be confessed, that at the breaking out of the war of 1756, France possessed on this continent the basis of a splendid empire. Her possessions, embraced on the South the mouth of the Mississippi, and on the North that of the St. Lawrence, stretching through the heart of the continent, and covering the great central valley of the Mississippi and the Northern Lakes. Louisiana, though by far the most important and interesting portion of her domain, had made but little progress, and was regarded as an appendage to Canada. That war, it is well known, was disastrous to the arms of France, and at the pacification in 1762, she was stripped of all her possessions in North America, except that part of the ancient province of Louisiana, West of the Mississippi, together wiih the island of Orleans. Simultaneously with the treaty of peace, France ceded to Spain the remnant of her possessions on this continent. With this treaty commencd a new era for Louisiana. Its ancient forms of administration, and its entire system of laws were changed. This transition was attended by afflicting events to the ancient population of the province, attached as they were to the land of their origin. Such was the delay attending the delivery of the province to Spain, that the people began to entertain a hope, that the transfer itself was a mere simultation, for the purpose of securing Louisiana to the crown of France, against the hazard of future wars. It was not until 1766, that Don Antonio de Ulloa was sent over to receive possession, in pursuance of previous instructions given by the king of France to D'Abbadie. There hangs over the conduct of Don Antonio, an extraordinary mystery; although he remained two years in the province at the head of a military force, he appears never to have taken formal possession of the country, and was finally compelled to withdraw, on his refusal to furnish the council his powers and instructions from the king of Spain. I am not aware that his report to his government has ever been made public. We are, however, fully warrented in believing, that such a report was made, and that it formed the motive or pretext, for the sanguinary orders subsequently given to his successor, and led to the fatal catastrophe which ensued. If such a document exists, as we have every reason to suppose, a copy might be procured from Spain, and would throw great light on an obscure and interesting crisis in our annals. The bloody tragedy which followed on the arrival of Don Alexandro O'Reilly the next year, the total abolition of the council, and the introduction of the laws of Spain, as over a conquered people, are well known. Until recently, however, the extent of O'Reilly's powers was a matter of conjecture; and although the courts have uniformly considered, the whole body of the Spanish law as in force from the date of his proclamation and the French jurisprudence as abrogated, yet they were compelled in a great measure, to judge of the extent of his authority by his official acts. Within a couple of years, documents have come to light, through the agency of our Minister at Madrid, which go to prove, not only his original powers, but the approbation of the court of Spain of all his proceedings. Among other documents thus procured, is a copy of a royal order of the 28th of January, 1771, in which the king declares that he had in 1765 appointed Don Antonio de Ulloa, to proceed to the province of Louisiana and take possession as governor, making, however, no innovation in its system of government, which was to be entirely independent of the laws and usages observed in his American dominions, but considering it as a distinct colony, having even no commerce with his said dominions, and to remain under the control of its own administration, council and other tribunals. But he goes on to say, the inhabitants having rebelled in Oct. 1768, he had commissioned Don Alexandro O'Reilly, to proceed thither and take formal possession, chastise the ring leaders, and to annex that province to the rest of his dominions. That his orders had been obeyed, the council abolished; and a cabildo established in its place, and the Spanish laws adopted. He proceeds to ratify and confirm all that had been done, and directs that Louisiana shall be united, as to its spiritual concerns, to the Bishoprick of the Havana, and governed conformably to the laws of the Indies. It was made a dependency of the Captain-generalship and royal Hacienda of the island of Cuba, and as relates to the administration of justice, a special tribunal was created, consisting of the Captain-general as president, the auditors of war and marine, the attorney of the Hacienda, and the notary of the government. To this tribunal appeals were to go, and from it to the council at Seville, without resorting to the audiencia of St. Domingo.

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[*] There are reams of manuscripts *in Europe* even now, materially relating to our history. Will we have them here?—[EDITOR.]

O'Reilly appears to have made a detailed report of his proceedings, consisting of six distinct statements. These statements have never, probably, been made public *in extenso*, but another document, procured at the same time at Madrid, contains a minute analysis of them. I allude to a report made to the king by the Council and Chamber of the Indies, to whom the whole matters had been referred. It is filled whith the most extravagant encomiums upon O'Rielly. The profoundness of his comprehension, the sublimity of his spirit, the correctness of his judgment, the admirable energy displayed in his provisions for the civil, economical and political government, his delicate knowledge and acute discernment of the laws of both kingdoms, as well as of the practical and forensic styles of the courts,—all these are set forth in the most pompous and sonorous phraseology of choice Castilian. By way of finish to this picture, and in the spirit of the most sublime bathos, the council adds, "that by the admirable arrangement of pay and distribution which he has proposed in the military and political classes, the treasury has gained (how much do you suppose?) one hundred and thirty dollars! which advantage is due to the comprehensive and indefatigable genius of the commissioner!" Miserable, cold-blooded, heartless calculators! at that very moment O'Reilly was the object of the just execration of the whole population of Louisiana. They had seen some of their best citizens, the elite of the country, immured in the dungeons of the Moro Castle, others shot down without mercy, without necessity, without a crime, unless it was a crime to love the land of their birth, the land in whose bosom repose the bones of their ancestors,—all entrapped at a moment of profound security and submission, under circumstances of the most infamous treachery and duplicity, and mocked with the forms of a trial, under a statute written in a foreign language, and never promulgated in the province. Does no one yet survive, in this whole generation—no one yet lingering on the stage—who was an eye witness of those transactions, from whom we could hope to obtain a vivid picture of the grief, consternation and despair which smote the heart of the country, while the place d'armes of New-Orleans, was reeking with its best blood, that we might hold it up to the remote posterity, as a comment on the specious bombast of the Council of Seville?

The commercial regulations proposed by O'Reilly, and which form the subject of his first statement, were undoubtedly liberal and calculated to advance the prosperity of the province. They contemplated a wide departure from the rigorous monopoly with which the commerce of the Spanish colonies had been shackled: a free trade between Havana and Spain, the productions of Louisiana to pay no duties when imported into that port, and no duty to be levied on exports from Havana to Louisiana; the admission of all Louisiana vessels into all the ports of Spain as well as the Havana, provided that none but Spanish or Louisiana bottoms should be employed in that trade. This system met the entire approbation of the council except that the exemption from the payment of duties should be considered only as temporary.

The second statement relates to the propriety of subjecting Louisiana to the same system of laws which prevailed in the other Spanish colonies, of carying on legal proceedings in Spanish, the establishment of the New Appellate Tribunal, of which I have already spoken, with a direct appeal from it to the council. These arrangements were sanctioned by the conncil with this proviso; that the Intendents of Hacienda and Marine should have a voice and vote in the proposed tribunal

The third and fourth statements relate to the organization of the Cabildo, and the appointment of Don Luis de Unzaga as civil and military governor of the province.

The fifth details the new ecclesiastical and economical arrangements.

The sixth and last statement of O'Reilly, informs the king that he had appointed a lieutenant governor for the district of Illinois and Natchitoches, encloses copies of his instructions. and proposes that the governor alone should have the power to grant lands, and that concessions should be made according to certain regulations which he had adopted on the advice of well informed persons. This is the well known ordinance of 1770, of which I may have occasion to speak hereafter.

It cannot be denied, that in many respects the new government was liberal and even paternal. Lands were distributed gratuitously to meet the wants of an increasing population, and direct taxation was unknown in the province. If the ratio of increase of the population be an index of its prosperity, Louisiana was certainly flourishing and prosperous. In sixteen years from the year 1769, the population was more than doubled by the ordinary means, independently of small colonies from Malaga and the Canary Islands. In 1711 it amounted only to four hundred, including twenty slaves. During thirty-four years of Spanish domination in this country, its resources were considerably developed, and Louisiana has been regarded, perhaps with justice, as the favoured pet of Spain.

It does not enter into my plan to go into any historical details relating to the different periods of our history; but my object is simply to call your attention to them, as worthy of minute investigation in the progress of our researches. Much interesting matter might yet be brought to light, illustrative of the characters of many distinguished persons who figured, and some of whom suffered, in the crisis I have already alluded to. What has become of the memorials and correspondence of Mihlet, who was despatched by the Louisianians to France, to entreat the king not to compel his loyal subjects to pass under the yoke of Spain? Who, that has read our earlier history, does not desire a more intimate acquaintance with the spirit of the times, and with the enterprising men who laid the foundation of the colony, and to investigate more minutely its gradual development.

II. I proceed to make a few remarks upon the second head of our proposed inquiries, to wit: the progress of our jurisprudence. The most important part of the history of a state, is that of its legislation. Upon that depends its prosperity and the character and pursuits of its people. It is not a little remarkable, that although successively an appendage of the monarchies of France and Spain, Louisiana never knew any thing like a right of primogeniture and a privileged class. No part of feudality was ever known here, neither inequality in the distribution of estate, nor fiefs, nor signories, nor mayorazgos. The grants of land were all allodial, and under no other condition than that of cultivation and improvement within limited periods; in fact, essentially in fee simple. The colonists brought with them, as the basis of their municipal law, the custom of Paris. By the charter in favour of Crozat, the laws, edicts and ordinances of the realm and the custom of Paris, are expressly extended to Louisiana. To this custom, which we all know was a body of written law, may be traced the origin of many of the peculiar institutions which still distinguish our jurisprudence from that of all the other states of the Union. I allude especially to the matrimonial community of gains, the rigid restrictions on the disinheritance of children, and the reserved portion in favor of forced heirs, the severe restraints upon widows and widowers, in relation to donations in favor of second husbands or wives, by the *Edit des Secondes Noces*; the inalienability of dower, and the strict guards by which the paraphernal rights of the wife are secured against the extravagance of spendthrift husbands. The community of acquests and gains between husband and wife, is altogether a creature of customary law, unknown to the jurisprudence of Rome, and even in those provinces of France formerly governed by the written law. It is said to be of Germrn or Saxon origin, and during the régime of the two first races of the kings of France, the share of the wife was one-third, instead of one-half of the property acquired during marriage, as regulated by the existing code. The introduction of the Spanish law in 1769, produced but slight changes on most of these points. The general rules of descent, as regulated by the law of Spain, did not vary materially from those of the custom of Paris; a perfect equality among heirs, was the essential characteristic of both codes. The points of discrepancy will form a curious subject of investigation to any one desirous of pursuing the inquiry. The existing code of this State has maintained to a certain extent those peculiarities, and they have become deeply rooted in the public mind.

O'Reilly, when he introduced by proclamation the whole body of the Spanish law, published a Manual of Practice. How far the practice was changed in substance, by that regulation, from what existed before, I am not prepared to say. It is to be presumed, from the character of those who had been previously engaged in the administration of the laws, that the practice was very simple, and perhaps, rude, and the records of judicial proceedings at these early periods, are extremely meagre. The order of the Commandant, after hearing the stories of both parties, was the decree to which all submitted.

Until the cession of the country to the United States, the writ of habeas corpus and the trial by Jury, were of course unknown here. Of the first, it is sufficient to say, that without it there can be no genuine personal security. Whatever we may think of the trial by jury, as a test of right or law, as a tribunal to decide upon the disputed rights of the citizens in civil cases, there is one point of view in which it may be regarded as above all price, namely, as the means by which the citizens became insensibly instructed in the great leading principles of the laws, and the foundation and extent of their rights. It is the best school of the citizen. The people assemble at stated periods to attend the sessions of the courts; the discussions are public, the neighbors of the parties are called on to act as jurors; they hear the laws commented on by counsel, they receive the instructions of the court, and retire to deliberate on their verdict. Each juror feels the responsibility under which he acts. Thus, the citizens in rotation, are called on to perform highly important functions in the administration of the laws, and after serving a few terms, cannot fail to become pretty well acquainted with the great leading principles of the laws of their country, and more vigilant in maintaining their own rights. My own opinion is, that the trial by jury in the interior of this state, has done more to enlighten the people, than all the means of education which have been provided by the munificence of the legislature. Many men who can neither read nor write, are yet capable of deciding as jurymen, a question of disputed right betwen two of their fellow citizens, with admirable discrimination. I think I can perceive in this respect, a singular improvement in the general intelligence of the people since I came to reside here, twenty-two years ago, especially among that class of our population to whom the trial by jury and the publicity of judicial proceedings, were novelties. A friend of mine used to relate an anecdote, which illustrates this position. Two honest creoles were disputing about a point of law, said one of them, "How, do you think I don't know, Sir? I am a Justice of the Peace?" "And I" said the other, "I ought to know something about it, I have been twice foreman of the Grand Jury."

If I were to dwell longer upon the subject of our jurisprudence, this address would swell into a dissertation. Permit me to recommend this subject to your attention, and particularly an inquiry into the pratical operation of the laws above referred to, which regulate the great relations of social and domestic life. Whether an equal participation of the wife in the property acquired during marriage; a right growing originally out of the presumed collaboration of the parties in a rude primitive state of society, ought still to exist in the present age of refinement and extravagance. Whether such a system be not productive of more fraud, and injustice to creditors, and disruption of families and litigation, than of public good and domestic tranquility, are questions more proper for discussion in the halls of legislation than here; they belong rather to the legislator than the historian.

III. I should hardly be pardoned, if I dwelt long on the next subject embraced in our plan, the state of religion. I will confine myself to a single remark. Fortunately Louisiana was ceded to Spain after the Inquisition had, even in that country of bigotry, been disarmed of its terrors, and although in this country the Catholic religion was the only one openly tolerated, yet an attempt to introduce that most infamous of all human institutions, was indignantly put down by the people and the local authorities.

IV. The condition of the Indian tribes comes next. The Indians! the Indians! whether subjects of history or heroes of romance, or mixed up in the miserable ephemeral dramatic trash of the day, always exaggerated, disfigured, caricatured. They have been represented by some as brave, high-minded and capable of sustaining extraordinary privations; sometimes as cold, stern, tactiturn; sometimes as gay, lively, frolicksome, full of badinage, and excessively given to gambling; sometimes as cruel, and even man-eaters, delighting in the infliction of the most horrible tortures. Some will tell you that they have a simple natural religion; or as the poet has it:

"His untutored mind,
Sees God in clouds, and hears him in the wind;
His soul, proved science never taught to stray,
Far as the solar walk or milky way.
Yet simple Nature to his hope has given,
Behind the cloud topped hill an humbler heaven
Some safer world, in depth of woods embraced,
Some happier Island in the watery waste.
To be content, his natural desire,
He asks no angel's wings, no seraph's fire,
But thinks, admitted to that equal sky,
His faithful dog shall bear him company."

Some of the earlier historians represent the Natchez as worshippers of the sun, or worshippers of fire; as having a temple dedicated to the sun, keeping up a perpetual, a vestal fire. They conclude, of course, that those Indians must have been allied at least to the Peruvians or Mexicans, if not descended from the fire worshippers of the East. The truth probably was, that in some miserable cabin or wigwam, a few chunks were kept burning, as is the case in every Indian encampment, and indeed in every well regulated kitchen. The fact is, that neither the pen of Cooper, nor the more eloquent and fascinating style of Chateaubriand, can inspire the slightest interest for their Indian heroes and heroines, in the mind of a man who has been much among the aborigines, and knows something of their real chracter and habits. With respect to those nations which yet exist, we are able to see for ourselves, and correct the false impressions which earlier writers may have produced. It is melancholy to look over the list of tribes, which were once scattered over the surface of lower Louisiana at early periods of the colony. How many of them are totally extinct! How many have dwindled down to a mere shadow, and their feeble remnant confounded with some neighboring tribe! The Attakapas, the Carancuas, the Opelousas, the Adayes, the Natchitoches, the Natchez, where are they, and what monuments have they left us, by which any trace of their history may be known? Of the Natchitoches, only a single individual exists, and he has been adopted by the Cados. Who knows anything of the language of these nations? Their language, certainly among the most curious of the remnants of erratic tribes, and by which an acute philology might perhaps trace some affinities with other existing people, is known only to a few; and they are not of that class from whom the republic of letters might expect some account of it. The powerful tribe of the Natchez is totally extinct; its last miserable remnant took refuge among the Chickasaws. There remain a few degenerate (if such beings can degenerate) descendants of the Tunicas, Chitemachas, Pascagoulas, Apalaches, and Biloxis.

Neither the French nor the Spanish governments recognised, in the Indians, any primitive title to the land over which they hunted, nor even to the spot on which their permanent dwellings were fixed. They were often grantees of lands for very limited extents, not exceeding a league square, covering their village. They were sometimes permitted to sell out their ancient possessions; and had a new locality assigned them. Many titles of that kind exist at the present time, and have been subjects of judicial decision. But the policy of extinguishing the primitive Indian title, as it is called, by purchase, which prevailed universally among the English colonists, appears to have been wholly unknow to the French and Spaniards in Louisiana. The massacre of the French at Natchez, which led to the extermination of that tribe, was provoked, by the attrocious attempt, by the commandant, to destroy their village at St. Catherines, in order to annex the land to his own plantation.

There are many indications here, as well as in upper Louisiana and Ohio, of a race of men, long since extinct, had who probably made considerable advances in some of the useful arts, and perhaps the art of defence. In Sicily Island, in the parish of Catahoula, there is a curious circle of mounds, regularly disposed, embracing a large area of alluvial soil, but little elevated above high water mark. I believe the dwelling house of the present proprietor, Mr. Matthews, is built upon one of them. Ther ear others equally curious on Black river; and near the village of Harrison burg may yet be traced an extensive elevation of earth, strongly resembling breast works. The enemy against which these works were thrown up, was probably the Mississippi, whose waters once flooded the whole of that region at certain stages. The study of Indian mounds has heretofore led to no important discovery upon which much reliance can be placed. It is worse than idle to indulge in conjectures upon the origin of these monumeuts. A few skulls, picked up here and there may indicate, perhaps, to the professed phrenologist, the former existence of a race more civilized than the present Indians, more capable of combination, having the organ of constructiveness more amply developed; but no general conclusions can be safely drawn from indications so feeble and equivocal. It would be, in my opinion, equally philosophical to conclude with the poet :

> "The earth has bubbles as the ocean has,
> And these are of them."

That there are, among the existing race of aborigines, instances of extraordinary capacity and power of combination, a few individuals, infinitely superior to the common herd, is undoubted. What was the boasted Cadmus of antiquity, who introduced into Greece a few letters of Egyptian or Phœnician origin, when compared with that poor, crippled Cherokee of our own day, who, by the unaided efforts of mind, by the simple power of induction, invented, perhaps, the most perfect alphabet of any existing language?

In these hasty and imperfect glances over the wide field of our proposed inquiries, I have purposely omitted to touch upon the last, or rather the present, era of our history, commencing with the anexation of Louisiana to the Federal Union, by far the most brilliant and important, and marked by great and interesting events.In relation to Louisiana, this may be properly designated as the epoch of constitutional, popular self government and of steam, as applied to navigation. The documents which illustrate this part of our history are within our reach, and ought to be collected and preserved. Forty years ago what was New Orleans—what was Louisiana? The mighty river which sweeps by us then rolled silently through an extended wilderness, receiving the tribute of its vassals streams from the base of the Rocky Mountains on one side, and the Appalachian chain on the other; its broad and smooth surface, occasionally ruffled by the dip of an Indian's paddle, or a solitary barge, slowly creeping up stream to the feeble settlements in the interior. What are they now? This city has become the greatest mart of agricultural products on the face of the globe; and yonder river traverses a double range of states, peopled by freemen, who, by the miracles of steam are brought almost in contact with the great market for the productions of their industry. That river is literally covered with floating palaces, which visit its most remote branches; and along the extended levee fronting our port, a dense forest of masts exhibits the flags of every commercial nation in the world. At her annexation to the Union, the destiny of Louisiana became fixed—admitted at once to a participation in the great renown of the Republic, connected with it by bonds of a common interest, she sprung forward, as it were by a single leap, from colonial dependance, to the glorious prerogatives of freemen, and to the enjoyment of the most luxuriant prosperity.

Let us endeavor to make a wise use of this prosperity, and do something for the cause of letters. Colleges are springing up under the generous patronage of the Legislature, which promise soon to be amply sufficient for the education of the rising generation. The Medical College of this city, the offspring of private enterprise and sustained by the devotion of a few medical gentlemen to the cause of science, deserves public encouragement, and I trust will receive it. The Lyceum of this city promises to unite utility with all that is agreeable in the public discussion of interesting topics. Let us turn aside, occasionally at least, from the worship of mammon, devote some of our leisure moments, stolen from mere sordid and engrossing pursuits to the cultivation of liberal studies. Who does not sigh, sometimes, amidst the bustle and struggle of active life, to retreat upon the studies of his youth? To fly to his early friends; friends who never deceived him and never weary; to the society of the philosophers, poets, historians of past times, and to bask in the mild radiance of those great luminaries of the intellectual world; to renew again those studies—which, if you will allow me to paraphrase the splendid eulogium of the great master of Roman eloquence—studies which form the generous aliment of youthful mind; the hoped for delight of declining years; the best ornament of prosperity; in adversity our surest consolation and refuge; inexhaustible source of the purest pleasure, whether at home or abroad, whether engaged in the bustle of the city, or enjoying the sober tranquility of rural life.

ART. III.—NEW ORLEANS, HER COMMERCE AND HER DUTIES.

When we look at the map of the world, the mind is struck with astonishment at, the extent of country which lies back of the city of New Orleans, whose *natural* outlet of productions must be through her port. If to the extent of country lying between the Appalachian and Rocky Mountains, comprising as it does, near a million and a half of square miles, we add the consideration, that in point of soil, salubrity of climate, and its one thousand rivers, all teaming into the Mississippi, and watering the finest portion of our globe, the immagination is taxed in vain, to tell what a century, nay, what a few years may produce, and what the results may be to New Orleans in making it the greatest and most commercial city of the world. It is within the recollection of many now living, when it was an inconsiderable town, and all its interior commerce was carried on in *pirogues*, and in that of thousands when it was all done by a few barges, keel and flat boats. Look at it now, even still an *infant*, and what do we see? Last year, her commerce equalled one fourth of the whole of the commerce of Great Britain, and the day is not distant, when the commerce of New Orleans, will not only equal the whole commerce of that Island, but must greatly surpass it in extent and value!

In the year 1790, a little over fifty years ago, the entire white population of the great valley of the Mississippi, but little exceeded one hundred thousand inhabitants, now it contains near ten millions.

The increasing ratio of population of this great country of the West, if it should continue at the same rate, as evidenced by the census for 1830 and 1840, (and who can doubt it) will in twenty years give forty millions of inhabitants; the natural outlet for the productions of their labor is New Orleans. The value of products of the ten millions who inhabit this great valley, that reached New Orleans the past year, was 77,193,460 dollars, under all the disadvantages incident to a newly settled and still rapidly settling country, (the people themselves, requiring a vast amount at home, for the supply of new comers every year,) what may we expect the improvements and the extensions of farms already in cultivation, added to new ones to be made in the next twenty years only, will add to the present value? Would it be extravagant to suppose that it will quintuple the present amount? Would not indeed the increase be likely to be greater, rather than less? If the ten millions of inhabitants are now able to spare near eighty millions dollars of products, would not forty, or even thirty millions of inhabitants, at the end of twenty years, with all the improvements they bring, be able to spare five times as much?—

This is a question of importance, and should be approached with all the lights the past may be able to furnish. Taking the past four years, as furnishing some reasonable data, we find that the value of Western products received at New Orleans was, in

1843,	- - - -	53,728,054,
1844,	- - - -	60,094,716,
1845,	- - - -	57,199,122,
1846,	- - - -	77,193,464,

giving an annual increase, after deducting the per centage between 1845 and 1844, of an avarage of nearly 14 per cent. The Hon. Jno. C. Calhoun, in a report made by him to the Senate of the United States, on the 26th of June last, on the subject of the great Memphis Convention estimates, the whole annual avarage of *increase* of the commerce of the Mississippi, at eleven and one-half per cent., assuming only ten per cent., (and we can see no reason to suppose but what the rate will rather increase than diminish) as the annual average increase for twenty years to come, and we have the results in the following tables:

In 1846	the value of prod. was	$77,193,464	1857 brought up	220,241,957
	10 per cent increase	7,719,436		22,024,195
1847	- - -	84,912,810	1858	242,266,152
	increase	8,491,281		24,226,615
1848	- - -	93,404,091	1859	266,492,767
		9,340,409		26,649,276
1849	- - -	102,744,500	1860	293,142,043
		10,274,450		29,314,204
1850	- - -	113,018,950	1861	322,456,247
		11,301,895		32,245,624
1851	- - -	124,320,845	1862	354,701,871
		12,432,084		35,470,187
1852	- - -	136,752,929	1863	390,172,058
		13,675,292		39,017,205
1853	- - -	150,428,221	1864	429,189,263
		15,042,822		42,918,926
1854	- - -	165,471,043	1865	472,108,189
		16,547,104		47,210,818
1855	- - -	182,018,147	1866	519,319,007
		18,201,814		57,931,900
1856	- -	200,219,961	1867 val. of prod.	$571,250,987
		20,021,996		
1857		220,241,957		

On the supposition it will only quantuple itself, the commerce will be $385,967,320, or $185,283,587 less than the above table. If Mr. Calhoun should be correct in assuming eleven and a half per cent., as the average annual increase, it would amount to over six hundred and eighteen millions. An amount of commerce greatly more than ever was thrown upon one city before in the world. It looks as if nature in the formation of the Mississippi River, and the immense country it drains by its thousand rivers, and twenty thousand miles of inland coast, intended to throw all her other works into the shade.

To bring to New Orleans the products of the past year, required 2770 steam boat arrivals, and 2763 flat boats, and to carry away that portion destined for foreign or coastwise shipment 2085 ships, barques, brigs and schooners. In twenty years more it will require eight times as many, viz: of arrivals of steam boats 22,160, of flat boats 22,104, and vessels to carry it away 16,680, being an aggregate annual number of nearly sixty-one thousand vessels to the port of New Orleans: or over five thousand per month; or one hundred and sixty-nine per day. But it is reasonable to suppose that the number of flat boats will not increase in the same proportion, in consequence of the superior advantages of steam boats in the saving of time, and when the attention of Government is directed properly as it must be, to the clearing out of the navigable streams and rendering them of easy and safe access by suitable steam vessels, they must multiply, while flat boats must diminish.

But with all her natural advantages, New Orleans has much to do, and which is immediately demanded at her hands. It is not to be questioned by any one acquainted with the inland commerce of the great West, that much of this commerce, is now already, and a great deal more will be taken from New Orleans to the northern Atlantic sea board, by way of the numerous Canals and Railroads, already in existence, and others that may follow after, and by way of the Lakes. Already is there a connection existing between the waters of the Ohio River and the northern Lakes, connecting with Canals, Railways, etc. leading to Boston, New York and Philadelphia, and on which produce can be transported to these northern cities as cheap, or cheaper than by way of New Orleans, and without the risk from snags in our rivers, which occasion so heavy insurance, and other objections and injuries to which produce is liable on coming to New Orleans, under the present meagre facilities now offered by the city, for *safety*, *convenience* and *saving* of *expense*.

It appears, from the "most reliable sources of information, that the present cost of the transportation of a barrel of flour from Cincinnati to New York by way of the Ohio and Erie Canal, Lake Erie, and the New York Canal, is $1 35. From the same place, via the Ohio River, Pittsburgh, and the Pennsylvania works, $1 40, and via New Orleans, $1 38. Besides this, there is usually an allowance of some ten or twelve cents per bbl. *for extra risk*, and for *soiling*, the barrel at New Orleans; which will make the cost, in fact, by this route, almost $1 50." But, by conversing with intelligent merchants engaged in the Western trade, the risk and *soiling*, it will be seen, is placed much too low, and that it will be nearer fifty cents per barrel, than ten or even twelve cents.

But, besides the canals already in successful existence, connecting the waters of the Ohio River with the Lakes, through the great State of Ohio, Indiana and Illinois have others now under way, tapping the Ohio almost at the lowest point, and which, when finished, must under any circumstances, divert an immense amount of trade from New Orleans.

Besides these, the great works of Pennsylvania, both in Canals and Railroads already in existence, we have to add the Chesapeake and Ohio Railroad to Baltimore, now so far completed as to warrant the belief that a few more years will see its Western terminus at Wheeling, on the Ohio, and ready to transport, in a *few hours*, all products, at a cheap rate, immediately on to Baltimore; and, if need be, by way of the railroad to Philadelphia or New York, as the owner may choose; thus giving him the advantage of the market of all the Atlantic cities.

But there is another work destined to influence powerfully the course of the Western trade. We allude to the Richmond and Ohio Railroad, an act to incorporate which, passed the Legislature of Virginia on the 2d of February, 1846. The Company is charged with the duty of constructing a railroad from the city of Richmond, on the South side of James River, to some point on the Ohio River, at or below the mouth of the Great Kanhawa river. Guyandotte will, in all probability, be selected as the point, as it is at that place the first considerable shoals present themselves in obstructing the navigation of the Ohio River above Louisville.

This work, when completed, will present the following advantages: 1st. It will open the shortest route from Cincinnati, on the Ohio River, to New York; and when completed, will form a continuous route of Railway from Guyandotte, (Cincinnati being about the centre of the Western produce region on the Ohio river,) to New York; viz: from Cincinnati to Guyandotte, 170 miles, Guyandotte to Richmond, 400, Richmond to Washington, 120, Washington to Baltimore, 38, Baltimore to Philadelphia, 96, Philadelphia to New York, 86; 910 miles.

By way of the Ohio and Erie Canal, and the Lakes and New York Canal, the distance is 1126 miles from Cincinnati to New York. But the great advantage is, that the route from Guyandotte, by way of Richmond, is open at all times, with but rare exceptions, whilst the Canals are closed by ice on an average of 124 days out of each year. It is true that the Ohio River is sometimes blocked by ice, but never very long at any one time. When we therefore take into consideration, that all the dangers of our Mississippi River navigation are avoided, and insurance almost superseded—and the fact experience teaches, that the rate of transportation will be less than it is at present by way of New Orleans; to which, add the fact, that flour is always from fifty to seventy-five cents higher per barrel in New York than in New Orleans—we think we hazard but little in arriving at the conclusion, that this route is destined, when completed, to work a vast change in the destination of Western produce. Add to this the reflection, that this is but *one* of the means resorted to for the purpose of drawing the commerce of the Western country, by artificial channels, to the Atlantic border, to say nothing of the fact, that New Orleans is doing nothing in the way of removing obstacles now in existence, or making any effort to prevent to the Western commerce those cheaper facilities which can and *ought* to be done, to insure all or as much of the produce from the West to seek its market, either at or through New Orleans. It cannot but be obvious to every thinking mind, that at least one half of that commerce may be diverted away from New Orleans to seek a market through other channels, which otherwise could be rendered tributary in building up her city. In looking at the country on the map, the portion lying North of the Ohio River, and regarding its extent, and the various artificial means already completed, now in progress, and which may hereafter be undertaken and completed, we shall find New Orleans has no small opposition to encounter and overcome, in order to place herself on an equal footing in this contest for the trade of the valley of the Mississippi. It should also be borne in mind, that the people of slave States are always the last, or generally so, in adopting those improvements necessary to facilitate commerce and cheaper transportation from the point of production to the point of sale or market. To such as have not reflected on this subject, the following observations will enable them to appreciate the correctness of the remark. In the free States, every man has personally to superintend the getting of his produce to market. This awakens his *thinking* powers, and the obstacles he has to overcome in wagoning his property, (as he is himself generally the wagoner,) stimulates into successful existence, first, turnpike roads; secondly, canals; thirdly, clearing out rivers and streams, and lastly, railroads. Now, on the other hand, the *slave*, and not the master, is the driver of the wagon; and so he *gets along*, but little matter how long, how troublesome, difficult, or laborious, the *negro* only sees and feels all this inconvenience, and the master is the last person to be aroused to make any improvement in his means of getting his produce to market; and, consequently, slave States, in matters of Internal Improvement, are never leaders.

But beside this, with a man owning a hundred slaves, there is but *one* mind to think; whereas, in the free States, the same number of persons would constitute one hundred and one *thinkers* and *actors*; and, it is *impossible* to contend against intellectual power, and its influence in such matters. To illustrate this by one example: In 1769, the imports of Virginia amounted to $4,085.472; while that of New York was only $907,200; and yet, in 1832, the imports of Virginia were only 550,000, while that of New York amounted to the sum of $53,000,000, in round numbers. At the period of taking the first census, in 1790, Virginia contained 747,610 inhabitants, and New York 340,120; and, by the census of 1840, Virginia had 1,237,797, and New York, 2,428,921! The value of lands in New York in the year 1825, at the period she finished her great canal, was $174,024,175; and in 1835, only ten years afterward, that valuation had risen to $241,385,050! while Virginia, on the contrary, has, in all probability, not added anything to the aggregate value of her property.

These things premised, the question arises, what ought New-Orleans to do? It is a momentous one, and that should be approached with care, and examined fully. But it may be asked, can any thing more be done than is already done? We shall not undertake at this present time to point out all that should be done, but to make some suggestions by way of arousing the public mind to the *present immediate* and pressing wants, such as the commerce of this city imperatively demands *now*.

And the first thing to which we invite attention is one, the nature of which is within our reach, and competency to manage and arrange, viz: to *provide all facilities for the convenient reception of such produce, as is destined by the Western shipper to go forward to foreign or coast-wise ports, ensuring safety, economy and despatch in its transmission.*

Of the whole amount of Western produce annually received at the port of New-Orleans, at least three-fourths, if not more, is destined for a foreign or coast-wise port. This produce on its arrival is thrown out upon our wharves and levees, and by the time it reaches the warehouses, it is very much *soiled* and otherwise injured, requiring a considerable expense in cooperage, and other repairs rendered absolutely necessary, with all the caution and care that may be bestowed upon it; besides, adding the expense of drayage to the warehouse from the steamer, and drayage back again to the ship, when it is to be re-shipped. But this state of things is greatly aggravated if the weather should be rainy, and the wharves and levees wet and muddy, and which is most likely will be the case, either on the delivery from the steam boat, or at the time of its re-shipment. With all the advantages of tarpaulins to protect from showers of rain, and the exercise of the most prudent care in the use of them, yet the fact is manifest, that it is not a sufficient safeguard, to say nothing of the mud, which no tarpaulins can guard against. There are many articles thus seriously affected by the *dampness* contracted, which the owner of the produce finds he has to foot, when he receives his amount of sales. Wheat, corn, oats, rye, hemp, bagging, bale rope, salt, &c., are all easily injured by damp, to say nothing of the *soiling* of the barrels and packages by being rolled in the mud. We know that with all the care taken by the proper authorities, to provide shells, &c., for the purpose of keeping the levee free from mud, yet a sufficiency will accumulate, in spite of every precaution, to soil every thing put upon it, and we all know how little rain will make that soil stick to the package with pertinacity. But, ought produce destined to go from New-Orleans be subjected to the charge of a *double* drayage? As at present situated, it cannot be avoided. But is it not an injury to the prosperity of New-Orleans that it is so? Is it not *adding* to the reasons, why men having property to go forward to foreign or coast-wise ports, that they should select these artificial inland routes, rather than send by way of New-Orleans? It certainly is. All the business that we can fairly get in an honorable competition, to seek its outlet for a foreign or coast-wise port by way of New-Orleans, adds that much more to our wealth, and aids in building up our city. To illustrate by a single item the disadvantages we now labor under in this respect, let us take a single case, and what is said in relation to this one, is equally applicable to every other. A merchant of Cincinnati has one hundred thousand bushels of wheat, which he wishes to send to Now York. This wheat is put up in fifty thousand sacks of two bushels each. As we are now situated, he knows this wheat has to be drayed to a warehouse on landing in New-Orleans, which will cost him four cents per sack, amounting to $2,000. He then has to pay another drayage back to the ship, besides his *storage* bill. But this is not all;

his wheat may arrive or be shipped in rainy weather—or it may get wet in its transit from the steamboat to the warehouse, or from the warehouse to the ship by a sudden shower coming upon it. This subjects him to a loss of more or less, and all these expenses and losses are to be added on *account of his shipment by way of New-Orleans*, which, when he comes to take into consideration, may induce his selection of the interior artificial route. But this is not all—the time will come *when it will be, only in consequence of its greater cheapness that any business of this sort will be thrown upon New-Orleans: for the other routes having the advantage of rail way, will secure, in consequence of their speed and quickness, all the business in Western produce, intended for a market at the North, at the same rate of cost that would take it by New-Orleans, and consequently, we are bound, if we expect to retain it, to make New-Orleans the cheapest way of sending it forward.* In addition to this consideration let it be borne in mind, that flour is always worth in the New York market from fifty to seventy-five cents more per barrel than in New Orleans, and that under the most favorable circumstances of weather, the rolling of flour over our wharves and levees is an injury of twenty-five to fifty cents per barrel more, besides the expense of drayage and cooperage. If all these matters are properly viewed, we think that the reader will come to the same conclusion we have, that *something must be done*, or we shall loose an immense deal of our trade.

The question is one that has to be answered *now*, and acted on immediately. There is no time for delay. Every day we delay action upon it is adding that much more strength to the opposition to be overcome, from an inland competition.

With due deference to any better opinion that may be offered, we beg leave to suggest, that a petition be immediately prepared, and presented to the Legislature, soon to convene, asking that body to confer upon one or more of the Municipal Councils of the city of New-Orleans, the power to authorize the erection of warehouses *upon the levee*, and if need be to block up the *front* on *Levee street*, and to collonade over the wharves in front of them to the water's edge, leaving at least sixty feet of the collonade open to the public, as also the streets leading to the river, so that vessels can at all times lade or unlade their goods without injury from the weather. The warehouses being joined to those collonade sheds, could receive all such produce as is destined to go forward, without any charge for drayage, and at the same time avoid the injuries to which goods are now subjected from wet, damp levees, and soiling from dirt or mud. This is within the competency of New-Orleans now and if done would remove some serious difficulties that are urged with good cause against making New-Orleans the shipping point of the produce of the West.

No reasonable objection could be had to conferring this power upon the Council of the third Municipality. At present that point of the city has little or no business, and her port is one of the best for shipping to take in cargo, and for the landing of steamboats to put out cargo. Situated as *it* is, the interests of the other municipalities would be promoted by making it the great shipping port, and thereby causing some business and improvements to go forward in that part of the city, and reserve the first and second municipalities as the centre of business.

Another matter worthy of attention at this present time, is the clearing out of the snags and improving the navigation of the Mississippi River and *all* its tributaries. The numerous losses of steam boats sustained within the last year, all point to the necessity of strongly memorializing Congress by some concentrated action with other cities and towns of the South and West, as to enable that body to pass an act appropriating a sufficient sum of money to carry out the object, over the head of the President, and his veto. In the meantime, while this is preparing, the Legislature should be invoked,to instruct our Senators and request our Representatives in Congress to press this matter, as one of vital importance to the welfare of the State, and the advancement of the interest of her great commercial emporium.*

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It may be objected by some, in relation to the first proposition, that there is not now more than sufficient room on the levees and wharfs for the convenient discharge of cargo from ships and steamboats, and that the erection of such improvements as are proposed, would rather be an obstruction than otherwise. To this objection, it will be sufficient to say, that in no city of any commercial importance, is there to be found a space of *even sixty feet*, much less such a space as is presented by our levees and wharfs, where, in some places, from 400 to 600 feet are left open. In New York, Boston, Philadelphia, and Liverpool, the space allowed does not exceed 50 feet in width, and much of it greatly less, for the discharge and reception of cargo from ships and other vessels. Those who take that view of the subject, must necessarily suppose that we of the South, and particularly of New Orleans, have not the capacity for the transaction of such business, as appertains to our Northern brethren or our trans-Atlantic friends, a position of humiliation, it is believed, few would be willing to aver, much less to urge as a reason why the measure should not be adopted. If, however, it should unfortunately be the case that we are not competent for the transaction of our business, we do not despair, that upon a proper representation being made of our unhappy case, a supply of talented gentlemen, would in kindness be sent on by our Northern friends and brethren, to take charge of us and our business, at a reasonable compensation, to be agreed upon. But not fearing to trust our present and the future destinies of our commercial emporium to the talent and management of our citizens, and not doubting their ability to meet successfully in competition with the most intelligent of any other city, we beg for the present to leave the subject before them for their consideration and action. – B. H. Payne

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* We have allowed the writer to express his views freely, as we know them to be those of a very large and influential class of our citizens. The Review can in no sense be made responsible for the positions taken by any individual over his own name. If any party doctrine appears to be favored in this instance, it must be remembered that in previous numbers of the Review, doctrines of the opposite party have in some degree been countenanced by our contributors. The truth is, it is utterly impossible in a work of this character to avoid entirely these subjects. They approach us at so many points, that there is no escape. We still however preserve the resolution of strict neutrality, so far as the editorial charge is concerned; and what is more, we shall not permit from others the advocacy of any party measure, whatever, except done in the spirit of inquiry and investigation, and in such terms as can prove offensive to no one; not even the most acutely sensitive. With such restrictions, we can anticipate no evil effect—and the cause of truth must be advanced.—[Editor.

Art. IV.—VENICE—ITS GOVERNMENT AND COMMERCE.

The history of Venice affords matter of interest to the merchant and the philosopher, as well as to the painter and the poet. The most powerful and lasting of those Italian states which form the connecting chain between ancient and modern civilization, Venice may be regarded as the type of the commercial republics which flourished during the middle ages and exercised so great an influence on the governments and arts of Europe. During this century, Venitian history has been oftener the subject of the imagination than of the reason; but during the seventeenth and eighteenth centuries, political actors and theorists were disposed to regard its government as the most perfect in existence. The republic has fallen, and we now perceive more clearly the fallacy of the principles on which its government was founded. The Ducal Palace, the Church of St. Mark, the winged lion and numberless patrician mansions still stand; and they bring before the fancy a thousand enchanting pictures of the past, with forms and colours, rounded and mellowed by time. Let us see if we cannot from the ruins of the republic extract some lessons to guide us in the conduct of the future.

When Alaric, with his Northern soldiers, was threatening to invade and overrun Italy, a considerable number of the *Veneti*, a tribe of Cisalpine Gaul, determined to leave their homes, and find a place of refuge safe from the inroads of Gothic barbarians. They retreated to the mud islands at the mouth of the Brenta, and there built a few huts which were, in time, succeeded by magnificent palaces. When all are poor, all are equal; and it was natural that the fishermen of the Lagune should constitute a democracy. In the course of two centuries and a half, even during those ages of slow progress, we might suppose that in a town situated like Venice, such a state of society would arise as would require other than democratic forms of government; and accordingly, we find that towards the close of the seventh century, a change occurred in the political organization. It seems to us that in a city-state, particularly when separated from the main land, and thus isolated in position, a democracy cannot possibly exist for any length of time. All limited government must be the result of conflict of interests; for in absolute governments the interests of the ruled have succumbed to those of the rulers, and when the individual interests are identical, there is no need of a restraining power. If the territory of a state is not sufficiently extended to produce, by different geographical position this conflict of interests, orders must arise. These orders being confined in a narrow space, faction results; and, in the end, all must submit to one order, or the state will be swallowed up by its neighbours.

We know so little of the early history of Venice (in fact, of what country except our own, have we anything like perfect details of its early history?) that it woudd be impossible to trace the gradual tendency towards the change brought about in its government at the close of the seventh century. From what we do know, we have no doubt the change was a beneficial one, required by the progress of Venetian society.

The new constitution was a mixture of the three forms, in which the aristocratic preponderated. But considerable powers were given to the Doge; and he, by generally keeping the people on his side, was enabled to hold the patricians in check.

As we have said, the aristocratic element was the most powerful in the second organization of the state. It was kept in due subordination, however. until the beginning of the fourteenth century. During that century, the nobles gradually, but surely, increased their powers, and succeeded in crushing the conspiracy of Marino Faliero, which had for its end the maintainance of the old forms and laws. Under Francisco Foscari (A. D. 1423, 1457,) the republic may be considered as having reached the state of pure aristocracy. The facts in the life of Foscari show the complete nullity of the Ducal power, even when the Doge had with him with the popular sympathy. At one period, Foscari wished to retire from public life; but the patricians refused to let him resign the Dogeship. From this we perceive his complete slavery; for no slavery is so abject as that which forces a man, against his will, to be the instrument through which others exercise power. Afterwards this same Foscari was deposed at the instigation of an enemy, Loredano; and thus for the sake of humbling a powerful family (an important object in aristocracies,) the nobles listened to the voice of private malice, while they disregarded the prayer of one who had done most signal service to the state. The aristocracy continued to exercise almost unlimited domestic power until the downfall of the republic. Having thus given a condensed account of political changes in Venice, we wish to examine the influence of its different governments over the habits, particularly the commercial habits of the people.

We observe, at first glance, that the most flourishing period of Venice was from the beginning of the eighth to the end of the fifteenth century. This was the period of both the political and the commercial glory of Venice. During this time the state made extensive conquests on each side of the Adriatic, and maintained the strongest navy in Europe; while the Venetian merchants were the carriers and bankers of almost all the kingdoms of the West. Was there not some connection between this flourishing condition of the nation and its peculiar political constitution? It would not do to say that the one was entirely dependant on the other; for all effects must have more than one cause. Doubtless, geographical and foreign, as well as domestic causes had an effect on the condition of the republic. But we think historians have been disposed to attribute too much to the first causes, and too little to the last. It would be as wise to say that all the actions of a man are determined by external circumstances, and that his spirit had no influence over his conduct, as to say that all the events of a nation's history depend on geographical position and foreign causes and very little or nothing at all on the domestic state of the nation. In speaking of the extent of Venetian commerce during the middle ages, writers talk nearly altogether about the crusades, the trade of the East, the central position of Venice, &c., and when telling of the decline of this commerce, the great cause given, is the discovery of the passage around the Cape of Good Hope. These facts are, no doubt, important; but are they every thing? Place a people in the best position imaginable, and if they are without national spirit and energy, they will do nothing. On the other hand, modern history shows us that a community with enterprise, placed in a very unfavorable position, will arrive at wealth and power. Hence, we conclude that the national spirit has as much, if not more influence over the national destiny than any external causes whatever.

In tracing then the influence of government on *commerce* we must observe its influence on the national spirit; for commerce is chiefly dependent on this spirit. To the development of commerce, courage and a sense of security are necessary; while fear and the feeling of insecurity tend to repress it. The merchant must not only know that his gains will be secured to him; but he must have the boldness to conceive and the energy to execute new and great enterprises. If then, the government of a country depresses courage, and raises fear, it must be unfavorable to commerce. On the contrary, increase the courage and self-reliance of a people, and they will extend their commerce. We conceive that trade is more influenced by government thus indirectly through the national spirit, than by the direct means of tariffs and bounties.

How then, is national courage fostered? And let it not be supposed that it is a question important only to con[illegible]g, and warlike tribes or people. No ; courage is at the bottom of [illegible]ness and power, and without it, a nation must die, ignobl[illegible] But, with this principle ever brightening and increasing, there is no end to a people's career.

In analyzing the principles on which governments are founded, Montesquieu has assigned to despotism, the principle of fear. And if we take despotism in its most enlarged sense, the philosopher was no doubt right. We must understand by despotism, absolute government, no matter whether in the hands of a one, few, or of many. Fear is produced by absolute power, and it matters little where the power is lodged, And as fear is a mere negative quality, the absence of courage, as darkness of light, we may say that where there is least power given to one man over another, in other words, where there is most freedom, there will be most self-reliance and courage. We may put our reasoning into the form of a syllogism, thus: freedom increases courage, courage increases commerce; therefore, freedom increases commerce.

This may appear a trite conclusion; every school boy will tell you that freedom is favorable to commerce. The conclusion is of little use in itself, unless you can find out the reason of the fact. Besides, observations are under the control of prejudices; and a man's facts are made by his opinions. But political reasonings founded on the nature of the human mind, are, in themselves, unanswerable. We place the chief importance of our analysis in making courage the link between freedom and commerce.

The great cause in the decline of Venetian commerce towards the end of the fifteenth century was, we conceive, the degradation of the popular spirit. Instead of being one of the best and wisest of governments, as was once the general opinion, we think this pure oligarchy of Venice was one of the worst and most short-sighted that ever existed, for arriving at all the really great ends of society. Not only had it the absolute power requisite for generating fear: but there was a grave-like secrecy in its operations. The citizen knew not when he was safe from the arm of those "up above," as the head oligarchs were significantly designated. Who could feel secure under a government, when seeing his neighbour one day quietly carrying on his trade, and missing him the next day and the next, dare not ask whither he had gone, through fear that his inquisitiveness might cost him his life? The bold, courageous soul can bear up for awhile against open power; but when the power is secret, and we know not when or whence it may fall upon us, the nerves relax and [illegible]s. We dread not the lion so much as the tiger, creeping [illegible] his prey and seizing it without the least warning. The [illegible]ration is, how even patrician cunning could carry on a state [illegible] of Venice for upwards of three centuries and a half.

To account for the great influence the discovery of the passage round the Cape of Good Hope, and the commercial changes consequent thereon had over Venice, we must take into consideration the state of the republic. Physicians tell us that there are some conditons of the body in which the slightest wounds will produce lock-jaw and death. So with the body politic. If a community is weak in itself, it will be the sport of external circumstances; the dismantled and rudderless vessel is at the mercy of the winds and waves. But it may be objected, that, during the sixteenth century, Venice maintained much of her political ascendancy, both in Italy and Europe; yea, even that she never appeared in so enviable a position as when resisting the powerful league of Cambray. The war brought on, however, by this celebrated League was, on the part of Venice, wholly a war of resistance; and we know how much less spirit is necessary for a defensive than for an offensive war. The resistance of Venice to the League of Cambray reminds us of the Spanish resistance to Napoleon. A nation may be comparatively torpid and spiritless, and yet drive out a strong foe from its territory. We notice that after the fifteenth century Venice never engaged in any important war of conquest. The chief object of its rulers after this period seems to be that of weakening the power of its neighbours, and by maintaining, at the same time, the original influence of the republic—thus increase its relative confidence. Such policy indicates a sense of weakness, and shows how little confidence the nobles had in the courage of the people. Remarks similar to those on Venetian politics may be applied to Venetian commerce At the time of the discovery of the passage round the Cape, there was still energy enough left in Venice to retain the commerce it already possessed; but the discovery of this passage made it necessary for merchants to launch out into new seas and open new fields of enterprise. The oligarchy had dried up the source for the conception and execution of bold projects; and Venice was left behind in the race of commercial greatness. It was as impossible for the people to make commercial conquests, as for the State to wage a war for territorial acquisitions.

Let us compare the career of Venice with [illegible]land. How many mutations in trade have occurred and [illegible] of England still increasing? Deprived in the last [illegible] portion of her North American colonies, the enterpr[illegible] colonial trade, was not destroyed; it was only turned [illegible] And at this very time when the trade of the East [illegible]turning to its old channels, across the Isthmus of Suez and through the Mediterranean, we see how impotent are the struggles of Austria and even of France, to wrest this commerce from England. In this contest, geographical position certainly favors the two former powers; and even imagine that they may, in the end succeed, how long must be the struggle—how great the exertion to maintain the conquest! Did Venice make any efforts to compete with the Western nations in the Indian trade carried on around the Cape of Good Hope?

Although Venice thus yielded up her Eastern commerce almost without a struggle, it had not existed without producing important and permanent results for Europe and the world. In the early part of the thirteenth century, the warlike and pious of Western Europe had determined on a fourth crusade; and ambassadors were sent to Venice in order to make arrangements for the transportation of the troops into Asia. The Venetians gladly entered into a contract for performing this service; and made such a bargain with the crusaders as shrewd merchants might be supposed to make with ignorant and enthusiastic soldiers regardless of money. The blind Doge Dandolo, "the octogenarian chief," embarked with the French troops; and on their way to Palestine, the holy warriors determined on interfering in the domestic affairs of the Greek empire for the sake of restoring the young Alexius to the throne, That jealousy which always springs up between powerful neighbors, rivals by position, existed to the fullest extent between the Venetians and the Greeks. Of course the Venetians were anxious for an attack on Constantinople; and did all in their power to urge this measure with the French crusaders. These last, impelled by the same spirit that made them restless at home and eager for adventure, were ready for any enterprise. Accordingly, the capture of Constantinople was resolved on. After leaders and soldiers, particularly old Dandolo, had all distinguished themselves in the siege, the city was taken by the combined French and Venetian force. To the French the victory was almost wholly useless: after a short possession of the Capital, nothing remained to them but the glory of the exploit. The Venetians, however, made a different use of the [illegible] that [illegible] to their hands. They fixed commercial establish[illegible] interior of the Byzantine empire, learned the Greek lang[illegible]n an extensive trade with the people. In their interco[illegible] they discovered the existence of an ancient and m[illegible]e: and through the efforts of merchants, noble[illegible]est literature of Europe, was recovered and again pres[illegible] the world.

At this time there were few States in Europe, besides Venice, that would have condescended to carry on any sort of communication with the Greeks. Regarded as heretics by the members of the Latin Church, the Greeks were excluded from almost all intercourse with the nations of the West. But the whole history of the Venecian people shows that they were singularly tolerant in religious matters. We trace this tolerance also, in a great degree, to their commercial occupations. Travelling into all the known countries of the world, even into exclusive China and remote India, the Venetians saw man in almost every variety of circumstance, holding all sorts of religious tenets;

with minds enlarged by such extended experience, they learned to recognize probity and truth among the worshippers of the Grand Lama as well as among the legitimate children of Mother Church. It was fortunate for Commerce and Literature and Art, that the fanatical knights of France, were accompanied in the siege of Constantinople by the commercial citizens of the Lagune.

The religious tolerance of the Venetians, which we have attributed to their commercial spirit, had other effects. They always resisted manfully the extravagant demands of the Roman church. During the middle ages when the Jews were banished from nearly all the kingdoms of the West, they were received in Venice and civil rights were granted to them. And now as the stranger walks through the narrow streets of the city he is struck at the number of Israelitish faces that he meets and at the number of palaces inhabited by Jewish owners. Almost all the villas situated on the banks of the Brenta between Venice and Padua and once owned by the patricians of the republic, have fallen into the hands of the Jews. The separate burying-ground on the Lido is one of the few marks of distinction between the Jews and the Christians; and the poetry of this situation, the majestic city on one side and the stormy Adriatic on the other, is enough to compensate the persecuted race for their exclusion from consecrated ground.

One of the most remarkable books of travel (of which they had many) left by the Venetians is the account given by Marco Polo of his voyage to China. For a long time the book was regarded as a tissue of fictions—invented by an imaginative man for the sake of astonishing the Western world; but late travelers have confirmed, to a remarkable extent, the truth of his statements. Had Polo's countrymen but possessed the necessary energy, they might on losing the Indian trade—have forced their way into China, and thus have opened a commerce reserved for the merchants of our own time.

A singular faculty of the Venetian mind was its capacity for distinguishing and reproducing colors. The glorious tints of the Venetian pictures have for three centuries been the admiration and wonder of painters; and the brilliant coloring of the glass and bead manufactories at Murano still attracts the attention of the chemist and the merchant. After the masters of the Venetian school, it is not difficult to account for the national taste in coloring; but before Titan and Paul Veronese could execute their conceptions, it was necessary for the subordinate art of mixing of colors to arrive at a certain state of perfection. No doubt the

Indian stuffs so remarkable for their dyes had some influence in awakening and cherishing the Venetian taste for colors. The objects which, we continually behold, modify not only the simple perceptive faculties of the mind, but also the artistic and imaginative powers.

The recent commercial history and present condition of Venice need not detain us long. Since its cession to Austria, the city has lived quietly on, the life of a paralytic, breathing and digesting, but giving us no sign of more active qualities. Besides, the Aulic Council and the Emperor are more partial to Trieste than to Venice; and their aim has been rather to build up the former at the expense of the latter. Trieste is nearer Veinna, and is not so Italian in its character as Venice. In 1835, however, the Austrian government made an effort to restore something of its ancient activity to Venice by making it a free port; and it has, to some extent succeeded. But the city must be "born again", it must have a new life breathed into it, before it can attain to anything like its former prosperity and commercial importance.

Art. V.—COMMERCIAL JURISPRUDENCE.

Liability of Municipal Taxes to seizure under Execution.

This was a case appealed from the Third District Court of New Orleans, in which the Plaintiff was the New Orleans and Carrolton Rail Road Company, and the Defendant, Municipality No. 3. The question involves great and important principles, and its discussion and determination by the Supreme Court of the State, have been conducted with signal ability. The opinion was read on the 14th December, by the Hon. P. A. Rost, and we have heard it every where spoken of in the highest terms. The reader will agree with us, that its publication is an act of general service, and we have therefore had it copied out from the records of the Court.

The plaintiff who is a judgment creditor of Municipality No. 3, availing himself of the provisions of the act of 1839, made many tax payers of the Municipality garnishees under his execution, and propounded interogatories to them, to ascertain the extent of their indebtedness for city taxes.

The defendants obtained an injunction on the ground that taxes are not not liable to seizure under execution.

The plaintiff joined issue on that allegation, and judgment having been rendered against him in the Court below, he appealed.

We concur with the plaintiff's counsel, that the issue in this case is exclusively a question of law; we dismiss therefore from our consideration all questions of expediency, which it may be supposed to present.

In the case of McCulloch, vs. the State of Maryland, Judge Marshall said:

"A constitution, to contain an accurate detail of all the subdivisions of which its great powers will admit, and of all the means by which they may be carried into execution, would partake of the prolixity of a legal code, and could scarcely be embraced by the human mind.—It would probably never be understood by the public. Its nature, therefore, requires, that only its great outlines should be marked, its important objects designated, and the minor ingredients which compose those objects, be deduced from the nature of the objects themselves."

From the peculiar relation of the government of the United States towards the State government, much diversity of opinion may exist with regard to the application of those principles in the construction of the constitution of U. S.; but there can be no difference of opinion on the subject, in a question involving the consideration of the constitution and government of a State, where no question is involved of positive or implied constitutional inhibition.

The light thrown upon the theory of government by the opinion of the Court in that case, will guide us in this enquiry.

Constitutions are but the frame of social organization; they define the objects of government, and establish the great powers which people intend to be permanent. But the establishment of the subordinate powers, which it is expedient to alter, modify or change, according to the varying necessities of each epoch, as well as the best means of carrying into effect, at different times, many of the permanent powers established, are left to the wisdom and discretion of the legislative department.

The institutions which provide for the police of neighborhoods, for facilities of transportation and of trade, and for the local government of towns, are instances of the exercise of one class of those subsidiary powers by the Legislature. The paternal power, the marital power, the power of the master over the apprentice or the slave, may be viewed as instances of another class. These institutions and many others are essential to the preservation of the rights of life, liberty and property, for which constitutions purport to be established; and the legislative enactments by which they are created and brought into action, constitute a part of those laws for the preservation of public order, from the force and obligation of which, individuals cannot derogate by their conventions.—L. C. Art. 11. The institution of town or corporations for government purposes, is as ancient as civilization itself. "De quelque manière qu'un Etat ait eu son origine et qu'on ait commencé de bâtir des villes, says Domat, ceux qui s'y sont assemblés n'ont pu le faire, qu'en s'unissant par une police qui réglât toutes les commodités publiques.—[Domat L.C. p. 106.]

But it is a remarkable fact, and one that belongs to the cause, that the people of Louisiana, in convention assembled, have twice considered the local government of this great metropolis as too important to be placed among those subordinate institutions, and have recognized the city of New Orleans, in its corporate capacity, as entitled to peculiar political powers and privileges. The right of the citizens of the city of New Orleans to appoint the several public officers necessary for the administration of the police of the said city, pursuant to the mode of election which shall be prescribed by the Legislature, and the right of the officers thus appointed, to be commissioned as Justices of the Peace, and to exercise such criminal jurisdiction for the punishment of minor crimes and offences, as the Legislature may vest in them, are secured and rendered permanent, by Art. 128, of the State Constitution.—Those political franchises stand upon the same ground as any other constitutional power, and the city of New Orleans and its officers, are for purposes of police and good order, and for the punishment of minor crimes and offences, permanent functionaries of government. The counsel for the plaintiff derides the idea that the defendants are invested with sovereign powers; names cannot alter things under our form of polity, no department of the government exercises the powers of sovereignty in its own right.

The constitutional powers of the State are all trusts. The powers of the Legislature, of this Court, and of the city of New Orleans, differ in degree and object, but they all derive their binding force from the supreme law of the State. The only difference in relation to them is, that the Legislature cannot change or modify the organization of the Supreme Court or its own, and that it may change or modify the Charter of the city; the provision in the constitution going no further than to recognize as permanent:

1st. Its corporate organization.

2d. The right of the citizens thereof to elect the officers of the Corporation.

3d. The right of those officers to be commissioned as Justices of the Peace, and to exercise the criminal jurisdiction already adverted to.

It has been argued that the defendants are not a civil or political corporation under the definition given by the civil code: we have already shown that the constitution vests them with that character. The definition relied on from the English side of one of the articles of the code, proves nothing but the ignorance of the person who translated it from the French. Definitions are, at best, unsafe guides in the administration of justice; and their frequent recurrence in the Lousiana Code, is the greatest defect in that body of laws. In the case of Ellis, vs. Prevost and others, 13 L. R., the former Supreme Court said that the statutory provisions of the code were often at variance with the definitions it contains, and that in those cases, it was a sound rule of interpretaion to consider the definitions as limited or modified by the clear intent of the positive enactments. This case shows the necessity of the rule.

The city of New Orleans is a public corporation, clothed by the Constitution with many important powers of government; and, as revenue is the essential engine by which the means of answering its exigencies must be procured, the power of procuring that article in its full extent, must necessarily be comprehended in that of providing for those exigencies.

Money is with propriety considered as the vital principle of the body politic; as that which sustains its life and motion, and enables it to perform its most essential functions. A complete power, therefore, to procure a regular and adequate supply of revenue, as far the resources of the community will permit, may be regarded as an indispensable ingredient in every Constitution."—Federalist, p. 112 and 117, ed 1845.

Under this view of the subject, the Legislature, carrying out the intention of the framers of the Constitution has enabled the defendants to procure a permanent and regular supply of money by taxation. This power to tax must, therefore, be considered as if derived from the Constitution.

The counsel for the plaintiff argues that this is immaterial; that the State itself may be sued in the United States Courts, and, if condemned, is liable to execution; that the Marshal in executing the judgment, has the right to seize in the hand of individuals, the amounts due by them for State taxes.

We were not prepared to hear such an argument seriously urged this bar. If the fact upon which it rests was true, it would be a sufficient answer, that the finances of a State form no part of its public domain. Taxes and national subsidies of all kinds, do not originate in the right of property; they are all essentially attached to sovereignty, and cannot be separated from public power; they form no part of the eminent domain of the sovereign. 3 Toullier, p. 17.

"L'empire, qui est le partage du souverain, ne renferme aucune idée de domaine proprement dit. · Il consiste uniquement dans la puissance de gouverner. Il ne donne à l'Etat sur les biens des citoyens que le droit de régler l'usage de ces biens, le pouvoir de disposer de ces biens, pour des objets d'utilité publique, et la faculté de lever des impôts sur les mêmes biens, différents droits réunis, forment ce que Grotius, Puffendorf et autres appellent *le eminent du soverain*, mots dout le vrai sens, développé par ces auteurs, ne suppose aucun droit de propriété, et n'est relatif qu'à des prérogatives inséparables de la puissance publique.

"Nous convenons que l'Etat ne pourrait subsister, s'il n'avâit les moyens de pourvoir aux frais de son gouvernement; mais en se procurant ces moyens par la levée des subsides le souverain *n'exerce point un droit de propriété*; il n'exerce qu'un simple pouvoir d'administration.—[Portalis, Exposé des Motifs, in Locre Legeir, vol. 8 p. 153, 155.

The taxes of the State are inherent to its sovereignty, and never can be seized.

Another counsel has argued, that admitting that the State taxes are not liable to seizure, it is otherwise with respect to those imposed by the Municipalities of this City. But the reasons alleged in support of the distinction, have failed to convince us. There is no difference in the nature of the two taxes.

"Public order and the common good of a State, require two kinds of expenses. The first is that which concerns the whole State, and the second, the expenses necessary for the police and good government of Cities. It is for those two kind of expenses, that there are two kinds of *public contributions*. The first is imposed and collected by the sovereign and its officers; the second by officers of town corporations." [Domat 2 pt, 5 tit. sec. 1, No. 5.

Domat makes no distinction between the two; and, as the taxing power of the Municipalities is derived from as high an authority as that of the corporations of which he speaks, no distinction can be made here.

It must be conceded, that the right of the Municipalities to impose and collect taxes, is not derived from any right of ownership in the property taxed. If their title to the taxes does not originate in private right, it must necessarily be deduced from *public power;* and, being so deduced, the taxes are a constituent part and a necessary ingredient of that power, no more liable to seiznre than the whole power itself would be.

Art, 647 C. P., in authorizing the seizure of sums of money due the judgment debtor, in *whatsoever right*, must be understood as having exclusive reference to that class of rights defined and protected by the Constitution as rights of property. *The taxes imposed for the protection of those rights*, form no part of them. Any other interpretation of that article would be destructive of public order, and inconsistent with the very idea of government.

The principle, that under the American Constitutions, no power or individual possesses directly or indirectly such an overruling influence over other powers, as would enable it to stop their functions, and thus to disorganize the government, is an axiom, a self-evident proposition. [Federalist p. 199.

In the case of McCulloch vs the States of Maryland, already cited, the Court held that the power to tax, involves the power to destroy; that the power to destroy may defeat and render useless the power to create, and that there would be a plain repugnance in conferring on one government a power to control the Constitutional measures of another.

We have nothing to do with the question, whether the establishment of a bank was a Constitutional measure; but, taking the facts as stated by the Court, their argument is unanswerable, and, by parity of reasoning, it is equally true, that the power to seize the tax in this case, involves the power to destroy the corporation; that the power to destroy the corporation, may defeat and render useless the power to establish it, and that there would have been a plain repugnance in conferring on any individual the right to arrest or impede the action of a constitutional power in the function of government.

The power to create the Corporation of the City of New Orleans, for purposes of local government, involves the power to preserve and protect it; but that protection would be unavailing, if it could be deprived of the regular supply of means, without which it cannot work its task. For all useful and practical purposes, the exercise of the right claimed would, in the present embarrased condition of the Municipalities, as effectually abrogate their charters as if they had been repealed by law. We conceive such a state of things to be repugnant to the letter and spirit of the Constitution.

It is urged, that the defendants cannot avail themselves of the privileges of public power, because they may be sued, and that suing them would be doing a vain thing, if, in default of any other property, their taxes cannot be seized under the judgments obtained against them. We all know that judges and governors may also be sued, notwithstanding the political powers they exercise, and although their salaries may be their only means of paying their debts, those salaries are not liable to seizure. It is true, that out of superabundant caution, our codes make special provision in relation to salaries of office, but the same rule prevailed before upon general principles.

The taxes in this case were seized in the hands of the corporators, after their assessment, and before their collection. The attributes of the taxing power, as may be seen in every English statute on the subject of taxation, are, the imposing, levying, collecting, receiving, and taking of the tax. The *collecting* and *receiving* are as much parts of that power, as the *levying and imposing*. The power would be precarious otherwise; and, as the plaintiff admits that he had no power to impose and levy the tax, it neccessarily follows that he could not lawfully *collect* and *receive* it; so that, if even the tax was liable to seizure, it could only be seized in the coffers of the Treasurer after its collection. But, to put an end to litigation on this important subject, we have thought it best to give our opinion on the whole issue submitted to us, and to state at large the reasons on which it is founded.

It is contended, that if the Municipalities cannot pay their just debts, they ought to be broken up, and their powers entrusted to safer hands. Whether it be an ascertained fact, that those corporations, as at present organized, cannot be safely trusted with power or with money, is a question we are not competent to determine. But it is very evident that the Convention, assembled last year, thought otherwise. The acts of the Municipalities, and their indebtedness, were known to them; and, with that knowledge, the Convention made no change in their organization, and gave their officers additional political powers.

There is no warrant of law to justify the seizure in this case, and, as none existed at the time the debt sued upon was contracted, the credit given to the defendants could not have rested upon the belief that their taxes were liable in execution.

It is not without much reflection that we have been able to concur in the decree about to be rendered in this case. On the first view of this question, there is something very repugnant to the moral sense in the idea that a municipal corporation should contract debts, and that having no resources but the taxes which are due to it, these should not be subjected by legal process to the satisfaction of its creditors. This consideration, deduced from the principles of moral duty, has only given way to the more enlarged contemplation of the great and paramount interests of public order and the principles of government. Although the enforcement of payment may now be beyond the power of the judiciary, the subject will no doubt be deemed worthy of occupying the wisdom and sense of justice of the Legislature.

For the reasons assigned, it is therefore ordered, adjudged, and decreed, that the judgment of the Court below be affirmed, with costs in both Courts.

II. THE RIGHTS OF CREDITORS AS AFFECTED BY ASSIGNMENT OF THE DEBTORS' PROPERTY.

This was the case of RICHARDSON & WATSON vs J. W. & R. LEAVETT, etc in appeal from the 1st. Judicial District Court. Opinion read by EUSTIS C. J. Supreme Court 14th. December, 1846.

This case arise from the conflicting claims of the plaintiffs, who are attaching creditors, and the intervenors who assert their right to the property attached by virtue of an assignment made in their favour by the defendants in trust for certain creditors.

The assignment was made in New York where all the parties reside and the debt on which the attachment was issued, contracted and payable in New York.

The property included in the assignment and sought to be attached by the plaintiffs was personal and found within the jurisdiction of the Court, and before the attatchment was served on the garnishees, was delivered to the assignees by the effect of the notice of the assignment, which had been previously served on the garnishees.

The debts for the payment of which the assignment provided are not contested, nor is any question raised as to the validity or effect of the assignment under the laws of New York, which are in evidence.

It is contended in argument by the Counsel for the plaintiffs that the assignment is fraudulent under our laws and consequently can pass no title to the property attached to the parties intervening, and the question has been argued whether the validity of the assignment is to be tested by the laws of Louisiana or of New York.

The assignment is valid under the laws of New York; it is a contract perfectly lawful between the parties and the consideration is neither inadequate nor immoral under these laws, and there is no part of it to which the tribunals of that State would not give effect.

It will be observed that this is not a case in which we are called upon to give effect to foreign laws, but on the ground of the exclusive operation of the laws of Louisiana on the property within its jurisdiction, to invalidate or annul a contract, which has been executed by the delivery of the property which is the subject of the contract, and which is in all respects lawful and valid by the laws of the domicil of all the parties.

By our laws the debtor is bound to fulfil his engagement out of all his property, moveable and immoveable, present and future, and the property of the debbor is the common pledge of his creditors. Every creditor has an action to annul any contract made in *fraud* of his rights. But he has no action to annul contracts *not* made in fraud of his rights. The violation of the common pledge, by the undue preference given to the creditors for whose benefit the assignment is made, is the ground on which the plaintiffs base the invalidity of the assignment.

But by the laws of New York no such pledge exists and the debbor is permitted to make any preference by payment in favor of some creditors to the detriment of others.

The law of New York is the law of the contract between the plaintiffs and defendants. Under the law of Louisiana the plaintiffs have no action against the assignees—who are in possesion under a legal transfer of property which was subject to no pledge and which the defendants were permitted to dispose of in favor of any creditors they might select.

To extend the laws of Louisiana to the contract made between these parties in New York would be to give an extra-territorial application to them unwarranted by any consideration.

The personal property attached is not the less subject to our laws on account of this view of the case, but a case is before us in which ex ratione materiae the plaintiffs have no claim on the property assigned to intervenors.

The very basis of such an action is wanting. We consider therefore that plaintiffs have no right to hold subject to the payment of their debt the property assigned and delivered to the intervenors.

It is argued that the assignment cannot be enforced here, because it is against public policy and is contrary to good morals. Both the reasons of policy and of morals, rest upon the principles of the common pledge of the property of the debtor to his creditors, which we have before stated and the inhibitions of its violation by preferences givee to one creditor over others. Whre there is no pledge these reasons cease to exist and there can be no complaint where there is no injury.

It is also said, that the giving effect to assignments of this character may conflict seriously with the rights of our citizens. It will not escape remark that we also confine the decision in this case to the state of facts presented by it, and we wish it to be understood as so limited. Cases presenting different facts will be determined as they shall be before us. But we must add that the operation of the laws of States to contracts in them, is sanctioned by the highest authority and may be considered as settled and that the rights acquired and disabilities incurred under contracts are entirely unaffected by the fact of citizenship,— McCracken, vs. Hayward, 2 Howard, 612.

The enquiry in this case is as to the *right* of the plaintiffs—the law of Louisiana cannot have any reasonable application to their contract made in New York, and there to be executed with the defendants, merchants in that metropolis. The aceidental presence of a portion of their personal property which in the course of their trade found its way into Louisiana, cannot be considered as giving the plaintiffs the rights in relation to it, which a debtor would have upon the estate of his debtor, under the laws and jurisdiction of the State.

Cessante ratione cessat et ipsa lex.

The conclusion to which we have come, is in conformity with the uniform course of decision in this State.

The case of Beirne and Burnside, vs. Patten, 17 L. R. 589, was decided in relation to the rights of the plantiffs, who were citizens of this State under contracts made and to be executed in New Orleans.

The judgment appealed from, is therefore reversed, and the plaintiffs petition dismissed with costs in both Courts.

ART. VI. DRAINAGE.

Superabundant moisture in the earth is known to be most deleterious in its effects on the growth of vegetation. The causes of this superabundance have been stated by Mr. Thaër, in his Principles of Agriculture, to be :

1st. From rain-water and other moisture, deposited on a spot where, from the retentive nature of the materials of which the surface is composed, and the strata on which it rests, this influence cannot penetrate deeper, or flow onward.

2nd. From water which flows from higher grounds, and which is retained on the surface of the soil by inequalities or elevations which force it to remain in that place until it evaporates.

3rd. From water which flows from elevated regions, and descends for a considerable distance among the porous substances between the different strata of clay before it shows itself, or breaks out on the surface of the ground, beneath which it often forms actual springs, which have no means of escaping.

4th. From water courses, which occasionally or permanently cover the surrounding land with water, either by overflowing it, or gradually trickling over and saturating it, or which, by the elevation of their bed and of their general surface, prevent that moisture which descends from the heights, and is collected from the plains, from draining away and escaping.

There is an immense territory in Louisiana exposed to the operation of each or all of these causes, and there is, perhaps, no other country where the proper drainage of land is of more importance. We have conversed with many intelligent planters, who dwell with enthusiasm upon the benefits resulting even now from the improved system in use ; and the belief seems to be very general, that the improvement in this respect has only been begun. Millions of acres of land will, by this means, be reclaimed, which are now waste, and be made most productive, and lands now in cultivation be improved to a surprising extent.

Many of our planters have introduced draining machines upon their estates at considerable cost, and of great power. There are others, who are now preparing to follow the example; and it is likely that, before long, there will be few estates without them. We are assured that whatever the cost may be it will be more than amply repaid by the increased yield of the drained soil. De Paluel, a distinguished French agriculturalist, remarked upon the success of his extensive drainage:—"There is, however, one rule from which I never depart—that of conducting all my operations and undertakings on a liberal scale, and never suffering any false notions of economy to mar the whole. The soil amply repays the capital that is bestowed upon it, provided that it is skilfully and judiciously bestowed. But those who act parsimoniously, and grudge every farthing, can never expect to derive any great profits. The enterprising alone will find their labors crowned with success. This observation relates particularly to draining." *

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* Dr. Buckland in a lecture delivered lately in England, makes the following judicious reflections upon DRAINING. We are indebted for a report of them to that valuable work the FARMER'S LIBRARY, Edited and published in New York by John S. Skinner, Esq.

The learned Professor then referred to the important operation of draining as the foundation of all good farming. It was useless to put tons of manure on land that was not dry; in that case it would only float upon the surface, for wet clay would not allow it to go down—it was almost entirely thrown away. Draining rendered the land penetrable by water, and enabled the rain to descend freely through it, carrying to the roots those fertilizing elements of carbonic acid and ammonia with which rain-water was always charged. Carbonic acid was continually supplied to the air from chimneys, and from putrefying animal and vegetable substances, also from the breath expired from the lungs of animals, and a hundred other sources; it floated in the atmosphere in a gaseous form, and was brought down again by rain. Falling upon drained land, this rain penetrated its surface, and, as he had just said, carried with it to the roots of plants, two of their great elements of fertility.

It was the landed proprietors' and the farmers' incumbent duty to increase the fertility of the soil, because it was the soil alone afforded the food which it was our business to provide for ourselves and families. Fifty years ago, Parliament had given a premium for draining to Mr. Elkington; and his system, where it was applicable, had answered the required purpose; but it was not applicable so generally as newer systems, for the publication of which the country was mainly indebted to Mr. Smith, of Deanston. He remembered, when returning from Scotland after visiting Mr. Smith's farm at Deanston four years ago, being taken by Sir Robert Peel into a field of his near Tamworth, which was almost swamped with water, and nearly unproductive. He advised Sir Robert to drain it after the manner of Mr. Smith, which he forthwith did, and the result was in the very first year a splendid crop of turnips, and the second year a crop of barley so luxuriant that the stalks could not support the ears, and fell prostrate to the ground. The expenses were repaid in two years, and this worthless field was a most profitable piece of land. The Rev. Doctor then mentioned another instance of the effect of drainage near Wolverhampton in Staffordshire, by Lord Hatherton. His Lordship had reclaimed a wild tract of 1,600 acres adjoining Cannock Chase, on hills higher than those in East Devon, and had increased its value from 5s. to 25s. per acre. After impressing thus forcibly the importance of draining, as the first step in agricultural improvement, the learned Professor proceeded to remark on the application of manures.

Draining machines have been constructed and used, of almost every variety, from the most simple to the most complete. To quote again from Thaër: "The greater part of those machines are worked by means of sails similar to those of a wind mill. The inhabitants of Holland have surpassed those of all other countries in inventions of this nature. The most essential quality of this kind of machine consists in its requiring no other agent than wind to put it in motion, and being constructed in such a manner, as not easily to admit of its being injured or put out of order. Should such not be the case, it will be liable to become unfit for use at the very moment when most required. On this account, those which require great motive power, are very complicated, and containing a great deal of iron-work, are always exceedingly troublesome. The '*drawing wheel*' the *throwing wheel*, and '*Archimedes' screw*,' are, when well constructed, fully capable of effecting the purpose for which they are designed; but the '*hydraulic ram*,' a newly invented instrument, is only adapted to particular situations. The '*Montgolfier*' machine, which has latterly so greatly attracted the attention of mathematicians and natural philosophers, is wholly inefficacious. Latterly, steam engines have been made use of for this purpose, with great success; but it must be admitted, that they are very expensive.

The question is of some importance, which of these constructions will be found best adapted to Louisiana, most economical, and produce the greatest results in its agriculture.

At the meeting of the British Society for the encouragement of arts, manufactures, etc., held several years ago, Joseph Glynn, Esq., read a paper upon the *application of steam power to the draining of fens*, which was awarded by a unanimous vote of the Society a gold medal. The paper was published among the archives of the Society, and is of such deep interest that we regard its publication in our journal as an act of public service. Our attention was more particularly called to it by our fellow citizen, Maunsel White, Esq., a gentleman favorably known throughout the State. We should be glad to make our review the vehicle of communicating all practical information, which may be elicited from time to time upon the subject.

"Although much has been done in the fen countries to improve the outfalls of their rivers, and to promote as much as possible the action of natural drainage, yet many districts are so situated, that without the aid of mechanical power, they must still have remained little better than waste swamps, affording only a precarious summer pasturage for cattle.

The introduction of the wind-engine, or Dutch mill, was therefore of great utility, as their use enabled the fen farmers to throw off a large portion of the water; and, by raising the banks round their districts, they kept them so far dry, that in favourable seasons they reaped abundant harvests, the great fertility of the soil returning them large crops of wheat when brought into tillage.

But here the farmer was subject to great risks. Often, when his crops were almost ready for the sickle, he had the mortification to see the rain fall in torrents when there was not a breath of wind to turn his mills, which stood motionless with their sails spread to catch the vainly expected breeze, whilst the produce of his fields perish on the ground.

The aid of the steam-engine is, therefore, invaluable in the fens and the extent and fertility of these lands, when properly drained and cultivated, render them an object of almost national importance. The fen districts in the Bedford level alone amount to nearly 300,000 acres. and the whole of the fen and marsh lands in England is, perhaps, not less than 800,000 acres.

In one of the districts where I was employed, I found the rich black earth formed of decomposed vegetable matter, to be upwards of thirty feet in depth.

Few persons, I believe, are aware how small a quantity of mechanical power is sufficient to drain a large tract of fen land. Generally speaking, there are no natural springs; and when the upland waters are banked out and carried into the rivers by catch-water drains, we have to lift that water alone which falls from the clouds. The quantity of rain which descends on the flat eastern counties of England, is less than in any other part of the island, seldom exceeding 26 inches in the year, whilst in the hilly western counties of Lancaster and Wesmoreland it often amounts to 54 inches in depth. It would seem almost like an arrangement made by Providence to place the cultivation of these rich lands within the compass of our ability.

In many months the evaporation is greater than the downfall, and it then becomes necessary to open the sluices, and let in water from the rivers to moisten the earth, and to supply the cattle, which, when steam-engines are used, may be done without fear.

If the wind-engines could be depended upon, they might be rendered sufficient for the purposes of artificial drainage; but it unfortunately happens, that when there is most rain, there is generally least wind, and the mills are useless when all depends upon them. The steam-engine ensures certainty; it is ready to act whenever it may be wanted; and the first cost, and subsequent maintenance of one powerful steam-engine, is less than the expense of building, repair, and attendance on a great number of wind-mills. In one large district where I was employed, named Deeping Pennear Spalding, and now drained most effectually by two steam-engines, there were forty-four wind-mills for lifting the water.

I would here remark, that I do not claim the merit of having originated the idea of employing the steam-engine in the drainage of land. It did not escape the great mind of Smeaton, who gave it as his opinion, that it would one day become a powerful agent in the improvement of the fens; and subsequently his pupil and successor, the late Mr. William Jessop, I believe on one occasion, unsuccessfully recommended its adoption. Afterwards, the late Mr. John Reunie endeavoured to introduce steam-engines into the fens, but he could only prevail on the proprietors of one district, to erect a small steam-engine in aid of their wind-mills, consequently it had not a fair trial, and here the matter rested for many years.

I am happy, however, in that I have been able to realize what these great men had imagined; and in so doing, I have not only caused "two blades of grass to grow where but one grew before," but I have had the pleasure to see abundant crops of wheat, take the place of the sedge and the bulrush. I have been fortunate, in that I have been permitted to a greater extent than I could possibly have anticipated, and whilst I confess myself ambitious of obtaining some mark of the Society's approbation, I trust that, through the means of their widely circulated transactions, the knowledge of these things may be further extended, not only in England, but on the Continent; and that when it is known by what comparitively small means the swamp or marsh, exhaling malaria, disease, and death, may be converted into fruitful corn-fields and verdant pastures, the blessings of health and abundance may be still more widely spread. I beg to apologize to the Faculty for this digression, which has led me away from the practical part of my subject.

In most cases it is not requisite to raise the water more than three or four feet higher than the surface of the land intended to be drained; and even this is only necessary when the rivers into which it is delivered, are full between their banks, from a continuance of wet weather, or from upland floods.

In some instances the height of water in these rivers is affected by the tides, etc. Rivers are affected by the tides, so that drainage by natural outfall can only take place during the ebb; in others, the rivers, uninfluenced by the tides, form the means of drainage, but have not fall or descent sufficient during heavy rains to carry off the water.

In all these cases I have erected steam-engines for draining marsh land with complete success, and the plans which accompany this paper will explain their application.

I have stated, that the quantity of rain fallen in the fens on the eastern side of the island seldom exceeds 26 inches in the year; and that it is with the rain alone we have to contend, the upland waters being banked out, and there being no springs in the fen. If there be rising ground within the district, or uplands adjoining, whose waters cannot be banked out, the surface of such lands must be taken account of in our calculation as if they formed a part of the district.

If we suppose that in any one month there fall 3 inches depth of rain, of which 1 inch is absorbed and evaporated, we have 1 1-2 cubic feet to every square yard of land; and this multiplied by 4,840 (the number of square yards in an acre,) gives 7,260 cubic feet of water to the acre.

I have found it expedient in practice, to keep the water in the drains within the district, about 18 inches below the surface of the cultivated land; and if we must raise it 3 1-2 feet higher than the surface, which happens very generally to be the case, especially when the water is high in the rivers, our lift between the surface of water in the drains and that of the outfall river will be 5 feet. I have generally caused the principal or main drains to be cut 7 1-2 feet deep, and of width to give them sufficient capacity to contain the rain water as it falls, and to bring it down to the engine, keeping it in full work within a descent or declivity of from 1 1-2 to 3 inches in a mile.

I have always used scoop-wheels, the float-boards of which dip 5 feet below the water's surface where powerful engines are used, or 6 1-2 feet below the land in the level of the fen.

The main drains, then, are 1 foot deeper than the wheel track, which allows for the deposition of mud and weeds, and facilitates the flow o water to the wheel. Such a wheel, in technical language, will be said to have 10 feet head and dip.

These scoop wheels I have made of cast iron, with wooden float-boards, like the undershot wheel of a water-mill; but instead of being turned by the impulse of the water, they are used to lift it, and are kept in motion by steam power.

The details of the construction of these wheels are shown in the engraving,

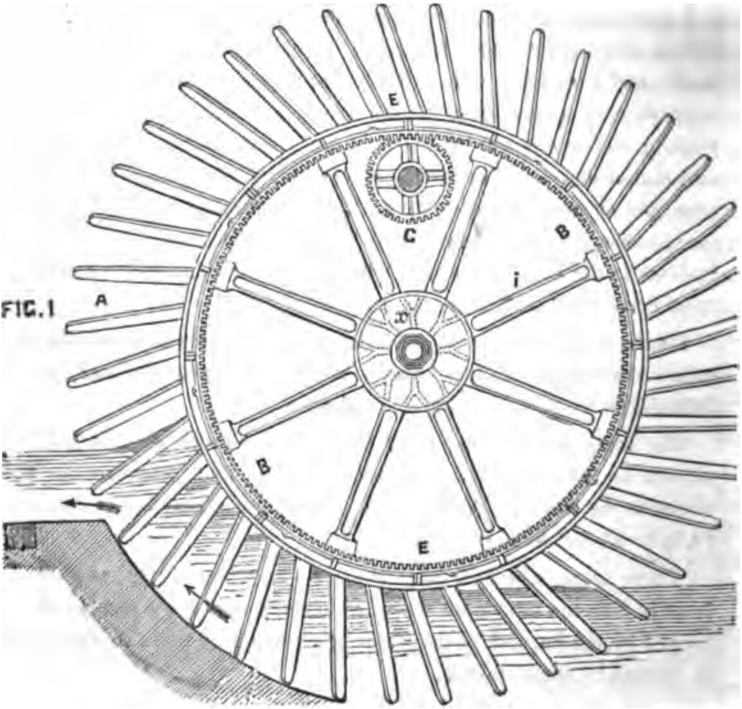
Fig. 1. Is a side view of the scoop-wheel.

Fig. 2. Is a front sectional view of the same, showing only the top and bottom paddle-boards and pairs of arms, and one top and and bottom tooth.

A A The paddle-boards each fastened to its pair of arms; *B B* the ring of internal teeth, which are engaged by the toothed wheel *C*, having on its axes a fly wheel and a crank *D*, by the latter of which it is connected with the prime mover.

The wheel is composed of 2 pair of rings, an outer and inner in each pair, one of the latter of which is the ring of teeth *b. b.*, already mentioned. Each ring is cast in eight segments, which are joined as shown. *E E*, fig. 1. These four rings are kept in their proper places by several setts of hollow pillars, each sett consisting of one long and two short ones, as *f* and *g g*, fig. 3; one long screw-bolt *H*, passes through the three pillars, and also through corresponding holes in the four rings, and thus

FIG. 1



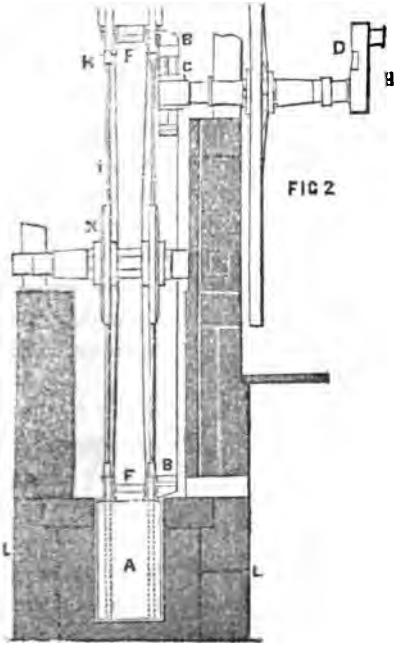
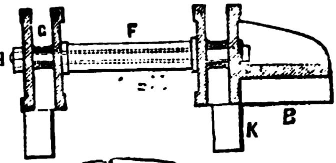


FIG 2

FIG 3



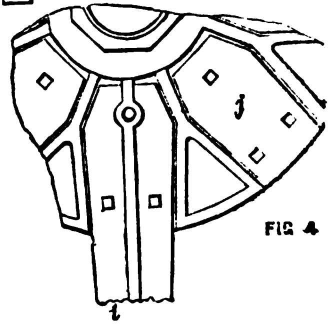


FIG 4

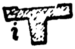


FIG 5

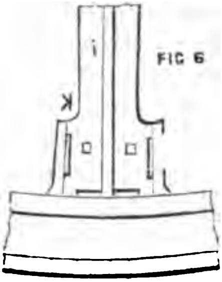


FIG 6

binds the whole firmly together. Each pair of wings is connected with the common axis by a set of arms or spokes, *i i*, etc., fiig. 1 the converging ends of which are secured in a circular flanch, *x x* fixed on the axis.

The form of the recesses in the flanch into which the ends of the two arms are fitted, is shown in fig. 4, where *j j*, are two such recesses, and *i* is an arm in its place, and made fast by three bolts. Fig. 5, is a cross section of an arm. Fig. 6, shows the outer end of one arm, and part of a ring: it is filled into a recess or box, *k*, which projects from the rim, and is secured by two bolts. These latter are cast with the two outer rings, as shown in the transverse section, fig. 3, *B*; in the same figure, is one tooth of the ring of teeth, fig. 1. The close fitting of the masonry that forms the channel for the water in which the paddle-boards *a* work, is shown in cross *l l*, fig. 1, in longitudinal section.

The float-boards move in a track or trough of hewn stone or masonry, worked to fit them, as shown in the figure, the lower end of this wheel track being open to the main drain, the upper end communicating with the river, which is kept out when the wheel ceases working by pointing doors, like the lock-gates of a canal. The float-boards do not radiate from the centre of the wheel, but form an angle of forty-five degrees with the horizon at the point where they deliver the water.

The diameter of the scoop-wheel should be such, that the surface of the water in the outfall drain or river may never rise higher than within four or five feet of its axis, otherwise the water might pass over the float-boards, and flow back again into the fen.

I have found about six feet in a second to be the best speed for the circumference of the wheel, as that velocity gives sufficient centrifugal force to hold the water up against the "breast" of the wheel track or trough of masonry, and yet not so much as to cause its being carried up by the float-boards past the point of delivery.

As engineers, by common consent, make a horse's power to be equal to 33,000 lbs. raised one foot high in a minute, or 3,300 lbs. ten feet high in the same time, consequently, as a cubic foot of water weighs 62 1-2 pounds, and a gallon of water 10 lbs., a horse's power will raise and discharge from the fen, at ten feet high, 330 gallons, or 52 8-100 cubic feet of water in a minute.

Now a good steam-engine applied to work a scoop-wheel will consume about 10 lbs. of Newcastle coals in the hour for each horse's power, and in that time lifts and discharges 3,168 cubic feet, or 19,800 gallons of water (at a height of 10 feet) per horse's power per hour.

I have taken the quantity of rain which may fall in excess on an acre of fen-land in a month to be 7,260 cubic feet, which one horse's power will raise and discharge in (2 32-100 hours) about 2 hours and 20 minutes.

Suppose, therefore, we wish to drain 1,000 acres of fen or marsh land, and that the upland waters are banked out; we have an excess of rain equal to 8,260,000 cubic feet to raise and get rid of.

A good steam-engine of 10 horses' power will do this in 232 hours, or less than 20 days, working 12 hours per day, and I have found these calculations fully supported in practice. It is true, that the rain due to any given month may fall in a few days, but in that case the ground absorbs a good deal of it, and I have before observed that the drains must have capacity enough to receive and contain the rain as it falls; besides, in case of need, the steam-engine may be made to work 20 hours per day instead of 12. It is also true that, as the dip of the wheel lessens, the quantity of water discharged is diminished; but then the district is perfectly safe, for the upper edges of the float-boards are 18 inches below the level of the land.

In order to show what has been done in actual practice, I here beg leave to submit the results of an experiment made with one of the engines of eighty horses' power, which I have erected at Pode Hole, in Deeping Fen, near Spalding, Lincolnshire. The quantity of water thrown being ascertained by the contents of a portion of the main drain, partitioned off for the purpose by dams, properly planked and secured by puddling of clay.

Results of an Experiment made with the Eighty-Horse Engine at Pode Hole, on the 18*th of June*, 1830.

Time the Engine was worked.	Coal burnt.	Mean Lift at which the Engine worked.		Mean Dip of the Wheel.		Weight of Water raised per Hour.
	Bush.	Ft.	In.	Ft.	In.	Tons.
1st hour's trial, - - - -	12½	6	7½	3	4	9,840
2d ditto ditto, - - - - -	12	6	10	2	10	8,520
3d ditto ditto, - - - - -	11½	7	2	2	6	7,560
4th ditto ditto, - - - - -	11	7	5	2	2	6,660
5th ditto ditto, - - - - -	10	7	6	1	10	5,700
6th ditto ditto, - - - - -	10	7	6	1	6	4,740
7th ditto ditto, - - - - -	10	7	6	1	3	4,220
8th ditto ditto, - - - - -	10	7	6	1	2	3,990
	87					51,230

The water-wheel is 28 feet in diameter, its float-boards are five and a half feet in depth by five feet wide, and they travel with a mean velocity of six feet in a second. The section of the stream delivered, when the engine has its full dip, is therefore, twenty-seven and a half square feet, and the quantity discharged is 165 cubic feet, equal to more than 4½ tons in one second, or about sixteen thousand two hundred tons of water in one hour.

It will be observed, that the float-boards had only 3 feet 4 inches dip, instead of 5 feet 6 inches dip, at the commencement of the experiment, or, in proportion to the full dip, as 20 to 23, or as 9,840 tons, the quantity lifted in the first hour, are 16 to 230 tons; so that the trial proves the correctness of the calculation.

It will also be remarked, that had the wheel been working with a full dip, "the head," that is, the lift from surface to surface of the water would have been only 4 feet 6 inches, instead of 6 feet 7½ inches. At the end of the eighth hour the enclosed portion of the main drain, which was 6½ miles in length, and averaged at the water's surface 34½ feet in width, being so far emptied of its contents that the float-boards of the scoop-wheel dipped only 14 inches in the water, it was useless to continue working the engine.

The fuel used for this trial, was Yorkshire coal, of which the average consumption was about 10½ lbs. per horse power per hour. From 8 to 9 lbs. of Newcastle coal would, with this engine, be found to do the same quantity of work.

I have drained two districts of fen-land, near March, in Cambridgeshire, where the engine's power bears about the proportion of 10 horses power to 1,000 acres of land, and the water can always be kept down to any given distance below the roots of the plants. If the rain fall in excess, the water is thrown off by the engine; and if dry weather prevail, they can open the sluices without risk, and let the water flow in from the river, to fill the drains and moisten the earth.

The engines work about four months out of the twelve, at intervals varying of course with the season. Where the districts are tolerably large, and the drainage effected by steam power, the annual expenses including all charges, will not exceed 2*s.* 6*d.* an acre. The first cost of the work varies, of course, in almost every district, from the nature of the substrata; but generally I have found that it amounted to about 20*s.* an acre for the requisite machinery and buildings: that is to say, an engine of 40 horses' power, with its scoop-wheel, machinery and buildings erected for the drainage of 4.000 acres of land, cost about 4000*l.* I have found this to be the case in four different districts.

Where the clay or other firm measures lie near the surface, so that we either can dig down to them, or drive short piles, I prefer the steam-engines in the form generally used in cotton-mills and other manufactories, and commonly called by workmen "factory engines;" but where it is necessary to drive long piles, and to plank and cross-plank over them so as to form an artificial foundation or platform to build upon, I prefer the "marine engines," that is to say, in the form usually adopted on board of steam-packets, which is more compact, requiring smaller and less expensive foundations. The districts wherein I have been employed are eleven in number; the quantity of land drained or improved about 90,000 acres, and the steam power used is equal to 620 horses.

In many places, persons who were able to forsee the consequence of those improvements, and to avail themselves of them, have purchased land at from 10*l.* to 20*l.* per acre, which they may now sell at from 50*l.* to 70*l.* an acre, producing from four to six quarters of wheat to the acre.

Many of these gentlemen farm their own land; are commissioners, by qualification; they live in abundance on the produce of their fruitful soil, and their hospitality and kind attention I have every reason gratefully to acknowledge.

I will mention these districts in the order their works were undertaken, with the quantity of land and the power used in each case, and attempt an explanation of the drawing sent herewith.

Deeping, Fen, near Spalding, Lincolnshire, in 1825, containing about 25,000 acres, is effectually drained by two steam-engines of 60 and 80 horses power, the large one being made entirely under my superintendence at the Butterly Iron works; the 60 horse engine by Fenton Murray. The scoopwheels and machinery for both engines were entirely made and put together at Butterley, under my direction. The cast iron toothed wheels used were of necessity very strong, more so, indeed, than any I had seen, being 15 inches in width across the face of the wheel, and the pitch of the teeth, 5 inches.

March West Fen, adjoining the town of March, Cambridgeshire; in 1826, about 3,600 acres are completely drained by an engine of 40 horses' power, and it is contemplation to add about 400 or 500 acres to the district to be drained by the same engine,

Misterton Soss, with Everton and Grinley Cars, in 1829; comprising an extensive district between Bawtry and the river Trent, of about 6,000 acres, more than two thirds of which are marsh land, is effectually drained by a 40 horse power engine.

The engine is situate about three-quarters of a mile from the Trent, and the outfall drain from the engine to that river is contrived, during the rising tide, or when the Trent is flooded, to form a capacious reservoir, into which the engine throws the water until it acquires sufficient head to open the pointing doors at the Trent side, and discharge its contents into the river. This is done when the Trent is flooded; but in favorable seasons, the sluices by the side of the engine are raised, and the district is drained by natural outfall; the sluices are also in dry season to retain the water in the district.

1830, Littleport Fen, near Ely about 28,000 acres, drained by two steam-engines of 30 and 80 horses power, but with a few of the old wind engines still retained. Before steam power was used, there were seventy-five wind-engines in this district; and often has the Fen Farmer in despair, watched their motionless arms, and earnestly hoped a breeze might spring up to catch their sails, whilst his fair fields gradually disappeared below the rising waters, and the district assumed the appearance of an immense lake.

The large engine was entirely constructed under my inspection, and built from my drawing, at the Butterly Works; the small one purchased by the commissioners, and I afterwards repaired and adapted it so as to make it available for their purpose.

As it was desirable that the large engine should be erected on the bank of the Hundred Foot, or New Bedford River, in which the tide rises considerable height, a scoop-wheel, of large size and great strength, was necessary, the head and dip being at times not less than 16 feet; but when the tide was out, the head was much diminished, and I therefore made two speeds, or combinations of wheel works; so that the scoop-wheel might revolve with greater velocity, and throw a larger quantity of water during the ebb, whilst the engines' full power and uniform speed were maintained at all times.

The foundation was naturally very bad, there being seven yards in depth of black peat above the clay.

To resist and to work against so great a head of water, I was compelled to take artificial means to make it secure, and, accordingly, I caused upwards of 600 strong piles to be driven firmly down into the clay. Having spiked the pile-heads, which were sawn off to a uniform level, stout cross sills of Memel-timber, the whole was planked over with 3 inch deals laid close together, and spiked down to form a complete floor under the whole of the buildings, so that if any settlement took place they might sink equally. The works, however, have stood as firm as a rock.

The scoop-wheel is 35 feet in diameter, and with its axis and the toothed wheel-work upon it, weighs 64 tons, to which, when in action, the weight of water upon it must be added.

The pinion on the engine-axis is 4 feet in diameter; it makes 13 revolutions per minute, and weighs 33 cwt.

When the tide is high, this pinion works into a wheel of 24 feet in diameter, having internal teeth; the float-board on the periphery of the scoop-wheel and discharges in that time 21,980 gallons. When the tide is low, the pinion, by the help of machinery, is made to slide into action with another wheel of 16 feet diameter, having external teeth, and the float boards then move at the rate of 318 per minute, delivering 5,278 cubic feet, or 32,880 gallons of water in the same time.

Before these works were completed, many persons who professed to understand such matters predicted their total failure, and greatly alarmed the commissioners for the result; but their success in saving the district from being drowned, during a long continuance of heavy rain, which,without their aid, must have laid the whole of it under water, gave unquestionable evidence of their eficacy, the commissioners were pleased to make a public expression of their thanks for my services, conveyed in terms most flattering, and by printing their resolutions in the local papers, to induce other districts to follow their example.

Middle Fen, near Soham, Cambridgeshire, about five miles from Ely in 1832. About 7,000 acres are drained by a steam-engine 60 horses' power. The foundation was similar to that in the preceding district of Littleport, and the expense and difficulty encountered in that instance led me to adopt the marine engine here. My success in Littleport Fen led to this undertaking, several of the commissioners having estates in both districts, as also in the following.

Waterbeach Level, lying between Ely and Cambridge, containing about 5,600, was drained in the same year by a 60-horse power engine. The foundation here is a natural bed of concrete gravel, held together by an ochreous cement; a large patch of this was found at the very point where it was desirable to establish the works at an accessible depth from the surface, so that we could build upon it.

Magdalena Fen, near Lynn, Norfolk, in 1834, contains upwards of 4000 acres, and is completely drained by a 40 horse engine, under circumstances similar to the preceding; the water is discharged into the Eau Brink Cut.

March First district, or Bannimoore Fen, in Cambridgeshire, 1834. 2,700 acres of land are kept in the finest possible state of drainag by a 30 horse power steam engine; the water of about 300 acres of adjoining high ground drains into the fen. This is, perhaps, the most complete work of the kind in Cambridgeshire. It lies close by the town of March, and the commissioners were, therefore, desirous that the drainage should be perfect: as they instructed me to spare no pains to make it so, I trust their wish has been accomplished.

Feltwell Fen, near Brandon, Suffolk, about 2,400 acres, drained or improved by a 20 horse engine, now just completed.

Soham Mere, Cambridgeshire, fomerly, as its name implies, a lake of 1,600 acres in extent, and about 300 or 400 acres of higher land, the waters of which cannot altogether be excluded. As the lift is great, it is requisite to employ a 40 horse-engine. These works are now constructing; they are in a forward state, and will soon be in operation, I trust with success.

I have exceeded the limits I at first proposed to myself, and, I fear, trespassed on your time; I therefore refer to the plans, which, I hope will further elucidate the subject, and respectfully submit them to the society.

ART. 7.—SKETCH OF A PUBLIC SCHOOL SYSTEM FOR A STATE.

Four classes of officers are necessary, as follows: First, a Superintendent of Public Instruction who should possess talent, industry, and a taste for schools and their object; if he be a practical teacher, all the better. Second, a Commissioner of Common Schools for each country; Third, three trustees of Public Schools for each township; and Fourth, two or three Inspectors for each School District.

The Superintendent ought to be appointed by the Legislature for a term of four or five years; because this officer, if of the right stamp, will have to act very cautiously for at least two years before he will have acquired that knowledge of his duties which will render him really efficient; and also for the further reason that he should not be subject to those fluctuations which are incident to changes in the predominance of one or another political party. He should be allowed a liberal salary, such as would enable and induce a gentleman of the requisite qualifications to devote all his time and attention to his public duties, and moreover, insure for his office that consideration and respect which is never accorded to one poorly paid. He would need an office to be kept at the seat of Government, and one clerk.

The State being districted, each district should choose by ballot its Inspectors for one year. Each township also, should choose its Trustees for one year, when and as, its constables and other town officers are chosen at a county convention to be held for the purpose; all the Trustees should meet and elect from their own body or otherwise, the "County Commissioners of Common Schools," for one or two years. All these officers *should be paid*, by some prescribed mode, a reasonable *per diem* allowance for the time actually devoted to the public business—because "all experience hath shown," that public services rendered gratuitously, are seldom efficient for their purpose—but when paid for, the public have a just *claim* for them; and, as a general rule they will be both more cheerfully and better performed in the latter case, than in the former.

Under such a system it will be the duty of the people of the districts to select with due circumspection, and without reference to political opinions, the most capable and enlightened citizens for School Inspectors; and these should accept the office and perform its duties promptly and unfailing, more from a sense of public DUTY than any other motive. They should be required to visit and thoroughly inspect the School at least once each month, making themselves familiar with all the details of its management in all respects. On these occasions they should recive from the teacher a monthly report concerning the School, comprising certain tabular statements [hereafter designated] made in a prescribed form as indicated by a blank formula to be furnished by the State Board of Education. This report should embrace in a condensed form—1st. The attendance of each pupil, to be noted by the teacher within five minutes after the time proscribed for opening the School each morning in a roll book to be furnished by the board of Education, and so ruled off into weeks and days that it would indicate clearly the absence rather than the attendance of each pupil, on each and every day.—2d. A statement in an abstract and very laconic form, of the general deportment, diligence and progress in learning of each pupil. The register for this purpose should be noted every day at the CLOSE of the exercises, in a book ruled and headed for the purpose, to be furnished as above.

It should be the duty of the Township Trustees to make at least one visit quarterly to every School within their township,thus becoming acquainted with the Inspectors, the Teachers,and as far as possible with the Schools.--At the end of every third month, there should be a meeting of all the Inspectors with the Trustees of the town, to confer upon the interests of the Schools.--At these meetings the Inspectors of each School should hand in to the Trustees a quarterly report made up (according to instructions from the Board of Education) from the Teachers, monthly reports and their own observations and suggestions.

At the end of each half year, the Trustees of each township should transmit to the County Commissioner a report, made up from the reports of the District Inspectors, together with their own observations and suggestions in regard to the condition of the Schools and the working of the system, embracing also the names of all Teachers who have distinguished themselves meriteriously or otherwise.

The Commissioners should convene semi-annually at the seat of Government and coustitute a "Board of Education," of which the Superintendent of Public Instruction should be *ex officio* President. At these conventions each County Commissioner should render to the Superintendent a report of the condition, etc., of the Schools of his county. An important part of the duties of this Board should be the examination of all candidates for the office of Teacher within the State.*

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* In a larger State this duty would have to be performed by the respective Commissioners of Counties.

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The sanction of this Board should also be necessary to the adoption of every School-book to be used in the Schools. The forms of all blank books for School rolls and registers—also the blank forms for reports of every description, that they may be uniform throughout the State, should be directed by this Board.

Among the various and responsible duties of superintendent of Public Instruction, not the least arduous would be that of visiting, at least once in each year, every county in the State, to inspect personally the working of the system. In these peregrinations he should omit no opportunity nor means for increasing his own information concerning the great subject of his care. He should lecture the people in public meetings, urging upon them the necessity of earnest attention to their schools, and renewed and untiring exertions in the great cause of Public Education. He should also revisit the schools and adress the pupils; visit the teachers and as many as possible of the families, using his influence on all occasions for the benefit of the cause which he is employed to advocate and superintend. In short, he should be heartily and actively devoted to his duties, and should omit no fit opportunity to manifest that he is so. A suitable man in this situation would have a most beneficial and commanding influence.

The Superintendent should make annually a Report to the Legislature on he whole subject of public education once a year. It should, of course, be both historical and suggestive. Among other subjects, he should not omit to commend to the favorable notice of the public, all teachers who may have distinguished themselves by excellence of any kind in the practice of their profession. The same might be done, with great advantage to the cause of education, for any particular school or even individual pupil, which had been duly reported by the competent authorities as deserving of such distinction. Such "honorable mention" would, no doubt, operate as a strong incentive on both teachers and pupils to excel in the performance of their respective duties. Since skill and faithfulness on the part of teaching and *steady attendance* by the pupils, are two main points in the working of any school system, every means should be resorted to to secure them; and these should be indispensable prerequisites to public commendation.

A powerful stimulant to energy, faithfulness, and industry on the part of both teachers and pupils might be created by the institution in each county of public examinations and lectures to be held once or twice a year, particularly at the time of the annual visit of the Superintendent. These re-unions should terminate with a festival at which all the public functionaries and influential persons in the vicinity should make it a matter of *duty* to attend; and by addresses to the people, to the teachers, and to the pupils, attention should be aroused and a lively interest excited in regard to the great public cause. The good influences of such occasions, if judiciously managed, would be immense.

But after all, no system of public instruction can be made truly effective for the thorough education of the people, unless a steady and unremitted attendance of the pupils *throughout the school year*, and year after year to a suitable age, can be secured; and also, unless such pecuniary inducements be held out to teachers as shall call into the profession a higher order of talent than has usually been deemed requisite. Is not the formation or development of the mental and moral man, so as to fit him for the high destiny of an American citizen, a work that requires talents of the highest order? and be it remembered, that no necessary cost is too great for this object, when its intrinsic value is considered.

THE NEW ORLEANS CHAMBER OF COMMERCE.

In our last number we made a reflection upon this Chamber which subsequent thought and investigation has induced us to believe was not altogether deserved. The influence of the Chamber in commercial matters here has always been very considerable, and they have amicably determined many important cases which, in the comity of merchants, have been left to them for adjudication. Great loss of time has been experienced by the members in this manner, as we ourselves have reason to know.

What we said about a *Mercantile Association* loses, however, nothing of its weight. That the Chamber is such an association in a certain sense, we are ready to admit, but not altogether such a one as we had in our minds' eye when the remarks were made. We wish to see a society of merchants which shall meet frequently for the discussion of great questions of commercial polity which shall have its appropriate Hall, its comprehensive library, and occasionally its public lecture, illustrating some one or more of the great principles of commercial economy. Such associations there are in Europe, and if there be none of the kind in this country, no argument can be drawn hence that there should not be. We do not mean associations of young men preparing *to be* merchants, but merchants themselves. This is a duty they owe to their great interests and to the interests of their country

We said that the NewOrleans Chamber had pronounced upon some important cases. We furnish the last as an example of their labors:

John Calhoun vs. The Agency of the Nashville Marine Life Insurance Co—The parties in this case agreed to leave it to a special committee, consisting of the President, Vice Presidents of the Chamber, (S. J. Peters, James Dick, and W. L. Hodge,) and waiving the right of appeal.

The plaintiff insured $3000 on goods per steamboat *Panama*, and $2000 on the hull and machinery, valued at $3000, for a voyage for Matamoros.

It appeared from the protest and evidence, that on the voyage she encountered heavy and blowing weather, and when off Aransas, broke her connecting steampipe by the working of the vessel in a heavy sea, which obliged them to anchor, the boat making much water; and all hands, assisted by the passengers, pumping and bailing; that not being able to obtain assistance from the shore, and the water gaining on them, they found it necessary to run the boat ashore, which they did by getting up steam and working the larboard wheel, the other being entirely disabled from the breaking of the steam pipe.

Letters were produced from the captain which stated that he was trying to save all he could from the boat and cargo, and that he expected to do so to the extent that would probably amount to nine hundred dollars.

The defendants resisted the claims for payment on two grounds; first, that the loss was occasioned by the breaking of the steam pipe for which loss or its consequences, they were not liable under that clause in their policy, which says:

"The assurers not liable for the breaking of engine or bursting of boilers "nor for any loss or damage accruing therefrom, unless occasioned by exter-"nal violence."

Secondly, for barratry of the masters from which the insurers were free by a special clause in the policy where the insurance was for account of the owners of the vessel, as was the case in this instance, the defendants alleging that an act of barratry had been committed by the captain having absconded with the proceeds of the damaged goods.

As regards the first point of the defence, the committee, consider the clause was only meant to protect the insurers from bursting of boilers and the ordinary accidents to machinery, and any immediate damages to the hull from such accidents, as otherwise the insurer would be liable to continual claims for replacing ordinary wear and tear of machinery, and would have to keep all of it in constant good order, and did not in any way apply to this case where the original accident arose from stress of weather, and was certainly one of the risks intended to be covered by the policy, and was also justly entitled to be considered as caused by the external violence arising from the weather and heavy sea.

On the second point the committee did not consider the captain could, under the circumstances of the case, commit an act of barratry. After the vessel was wrecked, he became the agent of the underwriters, and not of the owners, and was acting for their benefit. There was, besides, no proof whatever that he had absconded, but on the contrary, so far as there was any proof at all on the subject before the committee, it led to the belief that he had been killed.

Under these circumstances the committee gave a decision in favor of the plaintiff for the full amount claimed under both policies with costs.

The following Tariff of Rates was adopted a short time since, to be in force hereafter in our City. We had not the space to publish it sooner.

Tariff of Charges, etc., agreed upon and adopted by the New-Orleans Chamber of Commerce, at a Special Meeting held on the 2d November, 1846.

COMMISSIONS ON SALES.

	per ct.
Sugar, Cotton, Tobacco, Lead, Flour, and other products of the soil,	2½
Domestic manufactures and all foreign merchandise.	5
Guarantee of Sales on time,	2½
Purchase and Shipment of Merchandise or Produce,	2½
Sales or purchase of Stock or Bullion,	1
Collecting and remitting Dividends	1
Selling Vessels or Steamboats,	2½
Purchasing do	5
Procuring Freights,	5
Collecting Freights from foreign ports,	2½
Coastwise,	5
Outfits and Disbursements,	2½
Effecting Insurance,	½

Adjusting and Collecting Insurance or other claims without litigation,	2½
With litigation,	5
Purchasing and Remitting Drafts, or Receiving and Paying Money on which no other Commission has been charged,	1
If bills remitted and guaranteed, in addition,	1½
Bills and Notes remitted for Collection protested and returned,	1
Landing, custody, and re-shipping Merchandise or Produce from vessels in distress,	2
Do. Bullion or Specie,	1
Adjusting and Collecting General Average,	5
Consignments of Merchandise withdrawn or re-shipped per order, on account of advances and responsibilities—full commission.	
On the surplus amount of Invoices of such consignments, deducting Advances and Liabilities—half commission.	
Drawing, Endorsing, or Negotiating Foreign Bills of Exchange,	½
Do on Domestic Bills of Exchgnge,	1
Receiving, Entering, and Re-shipping merchandise to a foreign port—on amount of invoice,	1
On amount of Advances, Charges, and Liabilities on same,	2½
For Drawing, Accepting, Negotiating or Endorsing Notes or Drafts without funds, produce or bills of lading in hand,	2½
On Cash Advances, in all cases,	2½
For Entering and Bonding Merchandise for the interior—on amount of Duties, Freight and Charges, besides the Regular Charges for Forwarding,	2½
Agency for Steamboats—according to special contract.	

The foregoing rates to be exclusive of Brokerage and Charges actually incurred.

Receiving and forwarding Merchandise, exclusive of Charges actually incurred.

Sugar, Molasses and Tobacco,	per hhd.	50c
Cotton,	per bale	50
Hemp,		20
Moss,		10
Provisions or Bacon,	per hhd.	25
Do. do.	per tierce	12½
Pork, Beef, Lard, Tallow, Whisky, etc.	per bbl.	6
Flour, Grain, and other dry barrels,		5
Lard, Nails and Shot	per keg	2½
Lead,	per pig	1
Corn, Wheat, Beans, Oats and other Grain,	per bag	3

LIQUIDS.

Pipes and hhds.	50
Half pipes and tierces,	25
Quarter casks and barrels,	12½

SUNDRIES.

Boxes, bales, cases, trunks, and other packages Dry Goods,		10 a 50
Earthen and Hardware,	per package	25 a 50
Iron and Castings,	per ton	$1 00
Soap, Candles, Wine, etc.	per box	0 02
Coffee, Spices, Salt, etc.	per bag	0 25
Gunpowder,	per keg	0 25

STORAGE PER MONTH.

Cotton and Wool,	per bale	20c
Tobacco,	per hhd.	50
Hemp per bale, not exceeding	300 lbs	10
Do do do	450 lbs	15
Do do do	600 lbs	20
Do do do	800 lbs	25
Moss,	per bale	06
Bagging and Rope,		05
Peltries,		10
Hides,	each	01½
Lead,	per pig	01
Iron,	per ton	$1 00
Bacon and Provisions,	per hhd	25
Pork, Beef, Lard, Tallow Whisky, etc.	per bbl	08
Molasses and Oil,		10
Flour,		05
Lard,	per keg,	02½
Sugar and Molasses	per hhd	40
Corn, Wheat, Oats, and other Grain,	per bag	03
Coffee, Spices, etc.	per bag	05
Salt,		03
Candles, Soap, Wine, Fish, Raisins, Oil, Sweetmeats, Cigars, etc.	per box or basket	02
Do. in half boxes,		02
Nails,	per keg	01
Dry Goods (as in bulk) per package,		10 a 50
Crockery,	per cask or crate	25
Hardware,	per cask	40

Do.	per tierce	20
Do.	per bbl	10
Liquids,	per pipe or hhd	40
Do.	per half pipe or tierce	25
Do.	per quarter cask or bbl	10
Claret,	per cask	20
Gunny Bags,	per bale	08

WEIGHT OF GRAIN PER BUSHEL.

Wheat and Rye,	lbs. 60
Corn,	56
Oats,	32

TARE ON LARD.

In barrels 16 *per cent.; half barrels* 18 *per cent.; kegs* 20 *do.*

FREIGHTS.

When vessels are chartered or goods shipped by the ton, and no special agreement respecting the proportion of tonnage which each particular article shall be computed at, the following regulation shall be the standard:

That the articles the bulk of which shall compose a ton, to equal a ton of heavy materials, shall in weight be as follows:

Coffee, in sacks,		1568 lbs.
Cocoa,	"	1120 do
Pimento,	"	950 do
Coffee, in bags,		1830 lbs.
Cocoa,	"	1300 do
Pimento,	"	1100 do
Flour,		8 bbls. of 196 lbs.
Beef, pork, tallow, pickled fish and naval stores,		6 bbls.
Pig and bar iron, lead and other metals or ore, heavy dye woods, sugar, rice, honey, or other heavy articles, gross,		2240 lbs.
Ship bread in casks, 672; bags, 784; bulk, 896 lbs.		
Wines, brandy, spirits, and liquors generally, reckoning the full capacity of the casks, wine measure,		200 gal.
Grain, peas, beans, in casks,	bushels	22
Do do do in bulk	"	36
Salt, European,	"	36
" West India,	"	31
Stone coal,	"	28
Timber, planks, furs, peltry, in bales or boxes, cotton, wool, or other measurement goods, cubic feet,		40
Dry Hides,	lbs.	1120

When molasses is shipped by the hogshead, without any special agreement, it shall be taken at 110 gallons, estimated on the full capacity of the cask.

Freights (and commission on them) when in sterling money, shall be settled at $4 84 per pound sterling; and other foreign currency at the value fixed by Congress.

AMERICAN LIGHT HOUSES.

As our whole commerce and navigation are at the mercy of dangerous coasts, and the lives of hundreds and thousands of our citizens annually, it is a matter of as vital consequence that these coasts and bars be clearly indicated to the mariner in the night season, by a judicious management of lights and signals, as in the day by elaborate sea charts. We have expended annually immense sums in surveying the coasts and harbors of the country, but in relation to light houses, much complaint has been, and is still made, of a system altogether defective and inadequate to meet all the requisitions of a largely increasing maratime interest.

Two officers of the American Navy were lately sent to Europe to visit the principal lights, and examine the systems in use in England and on the continent. The results of their investigation were little creditable to our advance in these matters as contrasted with the advance of others, and the examiners prepared and presented elaborate reports for the use of Congress and the country.

In the construction of our light houses and in the arrangement of lamps, are the chief deficiences manifest. It is only from particular parts of the horizon these beacon lights are desired, and in these parts the chief intensity of the light should be concentrated; but the apparatus in use with us allows the rays to be diffused almost equally in every direction. This *concentration* is effected by means of an arrangement of lenses contrived by an ingenius French artist, M. Fresnels. The report of the Secretaries of the Treasury contain some interesting particulars of the invention and purposes of its adoption among us; the whole system to be placed under the direction and charge of a Bureau consisting of several military and naval officers, surveyors and engineers.

A harbor light, on the Fresnel, or lens system, says the Secretary, &c., of the smaller size of the fourth order, with a single mechanical lamp burning 1 9-16th ounce avoirdupois of oil per hour, would give twice as brilliant a light as the ordinary reflecting system, having a lamp burning 1 3-4 ounce averdupois per hour. The quantity of light on the horizon would be double, the cost of a given quantity of light one-half, and therefore the economy two-fold. As the apparatus increases in size from this to the higher orders, the advantage of the lens system increases. In the third order, second size, a mechanical lamp with a double wick, burning 6 3-4 ounces avoirdupois of oil per hour, gives as much light as fourteen lamps with reflectors, *each* burning 1 3-4 ounce averdupois of oil per hour. The useful effect is once and a half times, and the economy between three and four-fold. In the second order of lights the new system for equal useful effects is three times as economical as the old, reaching in the larger sizes to four-fold. A power equivalent to that of the first order of lens lights has not been reached by the reflecting system.

The cost of the erection of buildings for the new system of lighting, and the first cost of the apparatus itself, is somewhat more considerable, and the number of keepers required is greater than with the old; the repairs, on the contrary are much less. An accurate comparison of these particulars shows that in France the economy is in favor of the new system. Thus, taking into consideration the cost of tower, lantern, reflectors, or lenses, and of keeping up the light, the relative expense of the two plans for a small harbor light is as 236 to the new, to 226 of the old plan; while the quantity of light on the horizon is as 2 to 1 in favor of the new; and hence the economical effect is nearly double upon the new system. For a large revolving light (second order) the annual outlay of the old and new systems would be as 126 to 208 while the useful effect would be only as 1 to 2, and the economical effect of the new system would be more than once and a half that of the old. The cost for the ten apparatus might for the present be greater in our country; but the economy in lighting by the lens system is too great for this circumstance to turn the balance against it.

The mechanical lamp, used with these lights, or some other which Ameri can ingenuity may supply, or the hydrostatic or pneumatic map in use in the English lighthouses, will replace with advantage the present imperfect lamp. In France, the mechanical lamp is found to require but small repairs, readily made in establishments where the lamps are constructed; and both construction and repairs would surely be practical here. The cost of repairs of the lens apparatus is in a series of years merely nominal, and experience has shown that it is more secure and more easily seen than the old. No important seacoast lights should be left without being watched by a keeper, and, in the economy in lighting, will much more than pay the cost of two keepers in the larger lighthouses.

Whether the rape-seed oil generally used in the French lighthouses may be employed in our own with advantage, is a question which cannot now be settled; it may, however be desirable to call the attention of farmers to the cultivation of the plant from which it is obtained.

THE CITY OF MOBILE.

We published in our last number the main statistics of the commerce and progress of Mobile, promising at an early day to furnish an elaborate paper on the same subject, through the kindness of a merchant of that city. We are not yet prepared to do this, and shall content ourselves with only a few additional facts, for which we are indebted to the Alabama Planter.

The heaviest merchantmen can cross the bar and lie in perfect security at Cedar Point, and free from wharf charges, while those of lighter draught can reach the city, with only the expense of pilotage. At New Orleans pilotage has to be paid, and also high rates for towage.

As one evidence of our superior position, we would mention our rapidly increasing trade with Spain and her West India possessions.

Then as to our resources. Nature has been beneficent to South Alabama. No region of the same extent on this continent possesses so many elements of comfort and wealth. The soil is of unusual fertility and equal to any in the cotton region for the production of our great staple, besides being well adapted to the culture of corn, wheat, potatoes, fruits—in fact, all the products that conduce to the well-being of man. As to climate, we are blessed with that happy medium, neither too hot nor too cold—as healthful and salubrious as any portion of the globe. The production of cotton has not yet reached its maximum, and in relation to other products, it is a standing complaint against our people that scarcely a beginning has been made. But there is a silent and strong incentive pushing on our planters to a more rational system of culture as well as economy. The fruits will be visible one of these days.

Then, look at our noble forests of timber, as yet scarcely touched. The time is not distant when the pine lumber trade will be greatly augmented.—Our ship timber, which is just attracting attention. will eventually form a considerable item of our exports. No country affords better timber, or in more abundance for staves, the trade in which will largely increase.

A large portion of the State we are now considering abound in bituminous coal of the best qualities so immense that, the few scientific gentlemen who have examined the subject hardly know where to set limits to it. Iron ore of the richest quality exists in profusion, and is convenient to any amount of water power. In other places, sandstone, limestone, and marble of different hues and grades are found in the greatest abundance. In time, these valuable materials for building will be required by the progressive necessities of our citizens. They are elements of wealth to be found in unlimited quantities, within a country whose natural outlet is Mobile, and which is convenient to the navigation on which it depends. Will not these valuable qualities of our soil presently engage the attention of the industry of the State, and furnish to it resources that must result in the prosperity and wealth of the city?

It is preposterous to say that South Alabama has reached the limits of its resources, or that its citizens will always stand idle, with arms folded, unmindful of the wealth which a bounteous creator has scattered so profusely in every portion of the soil. The State is in its infancy, and what it has produced so far, compared with its means, is only the spontaneous effort of nature.—No careful system of agriculture has been applied to it—no industry has lent its skill to extract from the soil the immense wealth that lies hidden under the surface.

These elements of prosperity will be brought forth in good time, and the surplus, whether of husbandry, of the forest or the mines, must and will find a market in Mobile.

The Alabama, Warrior and Tombigby traverse a country, as we have said before, of unsurpassed fertility and at the same time abounding in the articles we have enumerated. These streams flow into the Mobile Bay—and will, no matter what efforts are made to divert the course of nature, empty their rich products into the lap of our goodly city.

These are our data for believing that Mobile is to be greater than she has yet been. The great fear seems to be that New Orleans is to swallow us up—wholly absorb us. It is perfect folly, nay, ignorance, to suppose that New Orleans or any other place can permanently draw away our trade to such an extent as to reduce the city to a starving place for the mere landing and reshipment of goods.

Country merchants and planters may for a time be deluded with the belief that they can buy goods at a less cost in New Orleans than here. For a season this belief may lessen the trade of the city; but in time the compensation will be sure. When they have well paid for their folly, the progress of the city will begin, and we have no doubt their eyes will presently be opened wide.

All persons of experience must know that a Mobile merchant, buying and shipping thousands of barrels, can land them here more cheaply than the dealer of the interior, purchasing his hundred packages can. The business men of the present day have made up their minds to be satisfied with small profits; and with these profits, we are sure the Mobile merchants can supply the country dealers on better terms, and at as low prices as the venders of N. Orleans

THE PUBLISHING BUSINESS.

Early Jesuit Missions in North America.—New York: Wiley & Putnams', 1846, in 2 vols.

This is a work in 2 volumns, compiled and translated from the original papers of the Jesuits, by the Rev. William Ingraham Kep. These pioneers of civilization in the New World, exhibited all that ardour and daring which belonged to the Apostolic age. They were detered by no dangers, they regarded no privatons, they despised allsuffering; and in marching onward with the cross in the wilds of America, and amongst savage men, they exhibited in bold relief the highest virtues of the Christian character. "Amid the snow of Hudson's Bay, and on the woody islands and beautiful inlets of the St. Lawrence—by the Council fires of the Hurons and the Algonquins—at the sources of the Mississippi, where first of the white men, their eyes looked upon the falls of St. Anthony, and then traced down the course of the bounding river as it rushed onward to earn its title of Father of Waters; on the vast prairies of Illinois and Missouri—among the blue hills which hem in the salubrious dwellings of the Cherokees, and in the thick cane brakes of Louisiana—every where were found the members of the Society of Jesus.

The work may be had at D. Baker & Co. Camp st.

The Farmers' Library for December; Edited by J. S. Skinner, New York: Greely & McElrath, 1846.

We have for the last twelve months received and read with much attention this work intended as the representative of American agriculture. The object appears to have been the collection of materials from every quarter, in reference to the growths and staples of the country, the best and most approved and productive modes of cultivation, etc. etc. Many admirable papers have appeared, and the engravings and wood cuts have often been of a most superior character. A considerable portion of each number is devoted to the republication of those valuable treatises which the agricultural scenery of foreign countries have given to the world. We have on several occasions differed from Mr. Skinner's views on subjects not intimately connected with agriculture, but within that pale he is altogether safe from any shafts whatever. The Farmers' Library has a liberal support at the South, and we cordially wish it to increase, entertaining as we do, the most kindly feelings towards the enterprise. *J. C. Morgan* is the Agent for this City.

Norman's Monthly Supplement.—As this paper is distributed gratis, and in connection with catalogues of new publications, contains much that would interest and instruct the planters, we have deemed it proper to call their attention to it. Mr. Norman has deserved well of this class of our community. He has made manly exertions to introduce and circulate standard agricultural works and periodicals, and has himself published a small work upon the subject, edited by Dr. Affleck and disposed of at about the cost of publication. We note in his paper that he intends sometime before the close of next year, to publish a regular journal of Agriculture, monthly or quarterly, which we are assured will meet with liberal encouragement.

Richardson's Dictionary of the English Language, 2 vols quarto: Philadelphia, E. H. Butler & Co., 1846.

We referred briefly in our last to this invaluable work, which has attained a reputation higher, we believe, than any other of a similar character in our language. We could not then do justice to its merits, and have but little space to do it now. The Dictionary contains over two thousand pages, and the authorities referred to in establishing the best usage, are most extensive, and arranged with great precision and neatness. The work was originally contributed to the Encyclopædia Metropolitana, and the American reprint of it is furnished at about one third of the expense of the English. So desirous are we of having extended in our country a knowledge of the construction and character of the language we speak, with all its peculiarities, that it affords us great pleasure to recommend this publication, which, we trust, will be found ere long in the library of every citizen, of whatever profession or pursuit.

Mr. Shaw is, we believe, the only agent for the work in this State.

A Brief Compend of American Agriculture—By R. L. Allen, 1846.

The American Agriculturalist—A. B. Allen, Editor, New York, 1846.

This compend of Agriculture, is made up from the best sources, and from the author's own experience. It is a neat volume of 300 pages, and Mr. Allen is now in this City, where he has established an agricultural warehouse. He will also be engaged in extending the circulation of the *American Agriculturalist*, a journal well and favorably known throughout the whole Union.

The Suppressed History of the Administration of John Adams, *(from* 1797 *to* 1801,) *as printed and suppressed in* 1802.—*By* John Wood: *now republished with Notes and an Appendix.—By* John H. Sherburne: Philadelphia, Walker & Gilliss.

The exciting period in the history of the United States embraced within the period above mentioned, will ever excite a lively interest in every American. A deep and fervent regard to the events of that time has rather increased than diminished by the lapse of years, showing plainly that we love that philosophy which teaches by example. This is evinced, too, by the rapid sale of the work. We notice, two large editions having already been exhausted, and a third being but to press. The Editor, (who is also the author of the first and only authentic life of Paul Jones—he being the latter's executor,) has explained in the Introduction the manner in which the work came into his hands. We have heard that the Hon. J. Q. Adams was consulted respecting its publication, and that he had no objection thereto. However, *we* do not enter into the political controversies of the day, and simply inform the reader curious in the matter, that the work can be had of Mr. Woodall, Camp street.

Poems of William Cullen Bryant, with illustrations—By E. Leatze: Engraved by American Artists: Philadelphia, Carey & Hart, 1847; New-Orleans, J. C. Morgan.

We have perused the above work, got up in the best American style, and adorned with elegant engravings, including a portrait of the author. The celebrity of this most brilliant and original of all the American Poets, renders it unnecessary to say anything in its praise. His Poem entitled Thanatopsis, cannot be too highly commended:

> "So live, that when thy summons come to join
> The innumerable caravan that moves
> To that mysterious realm, where each shall take
> His chamber in the silent halls of death,
> Then go not like the quarry-slave at night,
> Scourged to his dungeon, but sustained and soothed
> By an unfaultering trust, approach thy grave,
> Like one who wraps the drapery of his couch
> About him, and lies down to pleasant dreams."

The work may be had at J. C. Morgan's Book Store, No. — Exchange Place.

The Life of Joseph Addison—By Lucy Aiken: complete in one volume: Philadelphia, Carey & Hart, 1846.

We have not had sufficient time to form an opinion of the merits of this work, but do not hesitate to recommend it to the public on the strength of the reputation of the distinguished authoress of biographies of several of the British Sovereigns. It contains the epistolary correspondence of Addison with the most celebrated men of his times. The work is to be found at the Book Store of J. C. Morgan, Exchange Place.

Heroes and Hero Worship—By Thomas Carlyle—Revised Edition—New Work: Wiley and Putnam.

Sartor Resartus—By Thomas Carlyle—Revised Edition—New Work: Wiley and Putuam.

The above works, by the original and eccentric author of the "Letters of Oliver Cromwell," which added so much to his fame, have been recently received by him, and now form a portion of "Wiley & Putnam's Library of Choice Reading." They are for sale at the Book Store of D. Baker & Co., 80 Camp street, New-Orleans.

The Poets and Poetry of Europe—By Henry W. Longfellow: Philadelphia, Carey & Hart, 1846.

Lady of the Lake--By Sir Walter Scott: Carey & Hart.

Hawker on Shooting, with notes and additions—By Wm. T. Porter: Carey & Hart.

The Poets and Poetry of America--By Rufus Wilmot Griswald: Carey & Hart. [J. C. Morgan.]

THE

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OF THE

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J. D. B. DE BOW, EDITOR AND PROPRIETOR.

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THE

COMMERCIAL REVIEW.

VOLUME III.] FEBRUARY, 1847. [NUMBER II.

ART. I.—THE MERCHANT,—HIS CHARACTER, POSITION, DUTIES.

The business of the Merchant is in a very high degree useful and honorable. He is the promoter of enterprise, the encourager of agriculture, the friend of peace. He diffuses from country to country, from continent to continent, the comforts of civilized life, the luxuries of art, the practical, substantial benefits of science and knowledge. He is the patron of industry in all its departments, and without his ceaseless energy, every pursuit, in the multitude of human employments, flags and decays. He builds a village into a mighty city—remove him, and tower and temple fall to the ground. It is his active enterprise that whitens the ocean with the sails of a thousand ships, and stems the currents of mighty rivers with the gigantic power of steam. In vain does the farmer labour in the finest climate, on the most fertile soil, if he is beyond the reach of that mercantile agency without which his products are worthless.

This character, so useful, so elevated, has not been hitherto properly appreciated by the world. It has been the fashion with mankind to bestow their admiration and eulogy on the destroyers, not the builders of national prosperity. The gigantic homicides who strike off a hundred thousand heads at a blow, or level in the dust cities, which have been the abodes of wealth and refinement for centuries—these have long been the prime favourites of our race, and poets and historians are yet busied with the exploits of Scipio, and Mummius, and Cæsar, and Zingis Kahn, whilst the Astors and Barings of other days are long since forgotten. The first place in rank and dignity even now in modern Europe is assigned to the descendants of those feudal lords whose vocation was bloodshed and plunder—robbers who built their castles on the hill tops and preyed on the valley and plain, on the laborious farmer and enterprising merchant. But in Europe a change is going on. Men are learning to appreciate the pageantry of a privileged class at its real value, and to set a higher estimate on the useful and the good. And in our own country, where no false standard for personal worth has been established at any time, the claims of the upright, intelligent, liberal merchant to rank with the most elevated in the scale of social life is more and more acknowledged every day.

Is our reader seated at his breakfast table, before his comfortable fire of coal, let us invite him to a moment's reflection on the agency through which he derives his enjoyments. His cheerful parlour is curtained with silk or chintz from French or English looms, his carpet is from Scotland, his coal from Liverpool, the table before him is of wood from Honduras, his tea from China, his coffee from Mocha, or Brazil, or Java, his sugar from Cuba, his damask table cloth from Holland, his cups and saucers from Sevres, his knives from Sheffield, the Review or Magazine, that shares his attention with his tea cup, is just imported fresh from London or Edinburg, and whilst the pages of the Maga or Quarterly are yet damp from the press, the enterprise of the merchant has placed them on the reader's table. Can he fail then to honour the energy and industry which so contribute to his luxuries and comforts? Can he refuse to value most highly the vigour and skill without which his cotton, rice, flour, or grain would but encumber his fields and barns?

Such then being the high position of the merchant in character and usefulness, does it not deeply behove him earnestly to fulfil the duties of his noble calling? He must be the foe of violence, of dishonesty, of oppression every where. In every region of the globe to which his pursuits may lead—and where do they not carry him—he must be the enemy of fraud, of force, of tyranny, for where these prevail, commerce cannot flourish. He must be the fast friend then of liberty, of law, of order, of well protected industry. He must be ever, in heart, at war with whatever overturns or disturbs them, for they are essential to his success. In addition to the considerations by which all men are induced to preserve national and international peace, and which he is governed by in common with them, there is superadded for his guidance, the motive of personal interest. It is his vocation to be the peace maker and peace keeper of the world. Every new packet line established, every fresh field of enterprise opened, makes a new bond for the preservation of the world's repose. He must be the ready, active promoter of the refinement, the general civilization of all nations, for these things create new wants which his skill must ever seek to supply. He must be the advocate of punctuality in business. His word must be equal to another man's bond. With him there must be no petty evasions, no shuffling pretences, no trivial excuses. He must be the stern, uncompromising exacter of strict, rigid, unbending integrity, and exhibit in his own conduct a perfect exemplar of honesty. It is his interest to do so. In the extent and multitude of his speculations he requires the agency of many subordinates. How shall he exact or expect honesty in them, if he himself be otherwise than a model of that integrity, without which he can carry on no extensive transactions. It may be regarded indeed as the duty of the merchant to furnish for the community the standard of honesty. His condemnation must be ever prompt, of every departure from the rule of rigid integrity, no matter how high or how honored the delinquent, or whether it be some humble individual or a sovereign State. He must ever be the stern foe of all repudiating debtors.

To the great body of American merchants it peculiarly belongs to use ceaseless efforts for the restoration of that high character among foreign nations, which the dishonesty of some of the United States has jeopardised for all. How can the commercial body of Philadelphia hold up their heads like honorable men in European markets, whilst the great and wealthy State to which they belong carries no longer her's in that position? What is peculiarly the duty of the Philadelphia merchant is the general duty of all American merchants, for in Europe they make no distinction between the debts of a State and of the United States.

It is the great duty of the merchant too to promote every department of industry, for every department of industry affords productions to trade. It devolves on him to aid every great enterprise, the end of which is to increase the results of skill and capital. Every sound project for the extension of rail roads throughout the country should be the objects of his peculiar care, and receive his active support. It ought to be a liberal support, not a mere selfish calculation of immediate profits or six month dividends, but a generous far seeing assistance, which looks to distant, indirect, and general benefits.

Let the merchant honour the virtue of industry in those whom he employs. Let him promote it by liberal and generous reward. It is no part of his character to exact hard labor, and vigilant persevering attention to his interests from his agents, and to dole out to them a niggardly reward, with a reluctant hand. He should be always ready to assist, to advance, to promote with parental zeal every worthy subordinate. In every condition and class of the community to which he belongs, his eye should be ready to mark, and his voice to encourage, and his purse to aid the industrious and honest labourer and mechanic. Every impulse given to activity and vigour adds to the general fund of national prosperity, at the same time that it fosters the virtue of the individual assisted, and through him of the public at large.

It is not less the vocation of the merchant, and part and parcel of the noble and elevated part he is expected to perform, to be at all times foremost to dispense to every portion of the Republic the blessings of intellectual, moral, and religious teachings. How, otherwise, shall he worthily and fitly discharge the great duty of his calling—the preservation, the advancement of good order, peace, just subordination, and civil, political, and religious freedom, Let none be so ready as he to establish schools, to endow colleges, to build and support churches. To their honour be it said there is and has been no class of men more prompt, more liberal and munificent than the merchants of this and every country, in doing all these things, There are some exceptions it is true. There are men whose names disgrace the name of merchants—men whose sole aim is to amass an immense capital, and who sit down in the midst of their hoards with souls untouched by the elevated and generous feelings which ought to inspire them—men who apply their money to no liberal or useful purpose, but devote it to shaving notes, to making hard bargains out of the distresses of others, to add dollar to dollar without end or object.

For the promotion of the ends and aims, which we have briefly and very imperfectly adverted to as those which belong to the character and position of the merchant, there should be established everywhere societies of merchants, so regulated and governed as to animate and diffuse the genuine spirit and principles of their calling, to keep alive a vigorous and lofty tone of honour and honesty, to foster industry, to advance learning, to adorn and ennoble the pursuits to which their lives are devoted, and the country to which they belong. G.

Note by the Editor.—There is something delightful in the contemplation of such a character as our friend has ably drawn in the sheets above, to represent THE MERCHANT,—but where shall the man be found, where the community of such men? As God judges us, from an impartial and most anxious study of the mercantile classes, in a wide section of the union, particularly in our Southern and Western, we have discovered more to grieve and disappoint than to cheer. We want the spirit which "maketh alive;" we want the enterprise which is far-seeing and far-executing; we want the high purpose, the noble resolve, the liberal and comprehensive sentiment, which makes the merchant in the most unlimited sense,—the man, the citizen, the patriot, the philanthropist, *the national benefactor*. The "high calling" of commerce brooks no needy, gainful and contracted vision—no *pauperism* every where else than in *wealth*, no *deification* of *legers* and *iron chests*, no *consecration* of *warehouses*, no *idolatry of dollars* and *cents* and *tenth fractions of a cent!* To alter a passage from Bolingbroke, which he applied to lawyers, "There have been *merchants* that were orators, philosophers, historians; there have been *Roscoe's* and *Cosmo de Medicis'*. There will be none such any more, till in some better age true ambition prevails over avarice, and till men find leisure and encouragement to prepare [yes *prepare*] themselves for the exercise of this profession, by climbing up to the vantage ground, instead of grovelling all their lives below, in a mean but gainful application to all the little arts of chicane."

However, we have no disposition to press with severity upon any profession while yet it numbers many bright ornaments and exemplars. Our purpose is not to complain, but to urge a higher standard, and to provoke efforts from our merchant citizens in every respect worthy of them, and of our country. The apathy that has prevailed among us upon this subject is altogether unaccountable, but the results have been the most natural in the world. *The commercial spirit, in the true sense, has for many years, been dead at the South.* We wish to resuscitate it, and to vindicate for this great section of the Union those rights upon the high seas, which an extending FOREIGN COMMERCE will give, and that general prosperity which ever follows in its train. If we have not the class of men for movements such as these, let us aim to rear them up to be the actors, at least, in some other and more favored generation. To do this, we must diffuse correct and worthy views of the rights, duties, and responsibilities of the merchant citizen. There must, in fact, prevail an understanding of what a merchant citizen is:—

"Who gathers income in the narrow street,
Or, climbing, reaps it from the roughening sea—
His anchor Truth should fix—should fill his flowing sheet,
His weapon, helm and staff, the Truth should be.
Wrought out with lies, each rafter of thine house,
Black with the falsehood every thread thou wearest—
A subtle ruin, sudden overthrow,
For all thy household fortune thou preparest.

"Undimmed the man should through the trader shine,
And show the soul unlabel'd by his craft:
Slight duties may not lessen, but adorn,—
The cedar's berries round the cedar's shaft.
The pettiest act will lift the doer up,
The mightiest cast him swift and headlong down;
If one forget the spirit of his deeds,
The other wears it as a living crown.

"A grace, be sure, in all true duty dwells;
Humble or high, you always know it thus,
For beautiful in act, the foregone thought
Confirms its truth, though seeming ominous.
Pure hands and just may therefore well be laid
On duties daily, as the air we breathe;
And Heaven, amid the thorns of harshest trade,
The laurel of its gentlest love may wreath."

Art. II.—CONTESTS FOR THE TRADE OF THE MISSISSIPPI VALLEY.

A contest has been going on between the North and South, not limited to slavery or no slavery—to abolition or no abolition, nor to the politics of either whigs or democrats, as such, but a contest for the wealth and commerce of the great valley of the Mississippi—a battle for no principle of goverment, no right of human freedom in the abstract; but a contest tendered by our Northern brethren, whether the growing commerce of the great West, shall be thrown upon New Orleans, or given to the Atlantic cities—which shall receive, store, sell and ship the immense products, of that great country, lying between the Appalachian and Rocky Mountains? Shall Boston, New York, Philadelphia and Baltimore do it, or shall our own New Orleans?

If this question was not intended to be solved by the contest of after years, why the vast expenditure of money in building rail roads, digging canals, &c.? for what purpose were these works projected? for what object so many millions spent in the construction, and so many millions yet to be spent in finishing, and constructing canals and rail roads, intended to connect with the West by way of the Lakes, and with the West by way of the Ohio and Mississippi rivers? The New York Canal, the first in the series of works, unites the waters of Lake Erie with the tide water of the Hudson. The Western Pennsylvania works unite the upper end of the Ohio river with Lake Erie, while Ohio, Indiana, and Illinois unite the same waters at four other places lower down; and the latter State, besides tapping the Ohio near its mouth, has a work in progress, for uniting the waters of the Lake with those of the Mississippi.

Previous to the undertaking of the New York works, the city of New York, in point of population was outranked by Philadelphia even so late as 1820. In 1825 the New York great Canal was finished; and New York city now doubles in point of population the city of Philadelphia. At the time New York took her position, in front of all the cities of the Union in point of population and commerce, the resources of the great West were but little known, and less felt. But the far seeing eye of her great statesman, the Hon. De Witt Clinton, then foresaw the future importance of connecting the commerce of the Valley of the Mississippi with the interests, and destinies of New York, at the earliest moment; reasoning correctly, that they who first received, would longest retain the commerce of the West. Although much ridiculed at the time for the projected canal, yet he made the bold and daring attempt, and the firmness of his character enabled him to succeed to the surprise of friends and enemies, in connecting the harbors of Lake Erie with the Hudson, and forming a water communication with the far West and the city of New York. By an examination of the Auditor's Report of the value of landed or real property in the State of New York in 1825, with the valuation in 1845, only twenty years after, we find that the increase valuation is more than 100 per cent. over what it was then. The population, also, since 1820 has more than doubled itself.

The advantages developed by this improvement, set other States and other cities to work, for the purpose of securing to themselves, a portion of the growing commerce of the West, and through that medium, lay as it does here, the labor of the whole number of inhabitants of the Western States under contribution, to build up in like manner the fortunes of their respective States and cities, and to add the like results to the aggregate value of their property, as had been secured to New York. Massachusetts was aroused to push forward the fortunes of Boston by the construction of railways intersecting with the New York Canals and rail roads, and which have produced results already, almost magical, and opened a career for the future destinies of Boston, that cannot be otherwise than highly gratifying to her delighted population. Pennsylvania has also started forward into successful existence, works of a similar description, connecting, however, directly with the Ohio river; and a larger amount of capital is already invested by her, in canals and railways, than any other State in the Union; besides others in contemplation, which when completed, are destined to throw the wealth of untold millions into the lap of Philadelphia. Immediately adjoining her, is the State of Maryland, with her Chesapeake and Ohio Canal, and her Chesapeake and Ohio Rail Road, intended to connect directly with the Ohio river and draw through their channels the produce of the West, and to concentrate it upon the monumental city of Baltimore. Virginia, too, has been aroused, and by an act, passed by her Legislature, on the 2d February, 1846, a rail road is to be made from the city of Richmond, connecting with the Ohio river at or below the great Kenhawa. Giandotte, situated 170 miles above Cincinnati, will in all probability be selected as the point; as it is at that place the first considerable shoals present themselves in obstructing the navigation of the Ohio river above Louisville. By this route, the distance from Cincinnati to Richmond is only 570 miles, and but 700 to Norfolk. Railways are now completed from Richmond to Washington city, Baltimore, Philadelphia, and on to New York, and the whole distance to the latter city by this route is only 910 miles from Cincinnati, a distance that railway speed can overcome in 30 hours. The

New York and Erie Rail Road is now in progress of completion, and when finished, the distance from Dunkirk on Lake Erie to New York can be accomplished in 14 hours.

Next to these improvements, but not behind them in importance, we must add that western Pennsylvania, Ohio, Indiana, and Illinois have completed and have in progress of completion, numerous canals connecting the waters of the Lakes with the Ohio river, and others intended to connect directly with the Mississippi river.

In the midst of this grand display of enteprise, money expended, talent and forecast exhibited by our northern brethren, to draw the commerce of the west to them, the question comes up, what have we of the State of Louisiana, and New-Orleans in particular, done to ensure this commerce to ourselves? The very question startles us with the answer we have to make. Had nature not done so much for us, or had we to encounter the same difficulties that they of the north have overcome, the history of past experience would tell us, that it never would have been accomplished in the space of time that *they* took to complete it. From some cause or other Southern States have never heretofore been leaders in enterprises or improvements of commercial importance. Possessing, as Louisiana does, the ownership of the Mississippi river, (and no other State does,) and with it natural advantages never equalled by any other State or city in the world—with the Mississippi as a great trunk, stretching its longest branch four thousand four hundred and ninety-one miles through the midst of the great valley, lying between the Appalachian and Rocky Mountains, with more than a thousand rivers pouring into it from either side, watering the finest portion of our globe, with a climate and soil unsurpassed in salubrity and fertility, an extent of country over one million two hundred thousand square miles, which fifty years ago was mostly a wilderness, now containing a population of ten millions of people, and increasing more rapidly than any other portion of our confederacy, but little exertion *was wanting*, but little exertion is *now wanting* to ensure to New-Orleans, and consequently the State of Louisiana, the untold millions of its commerce to be forever carried on through the mouths of the Mississippi.

Had a tithe of the exertion been made to retain it, that has distinguished the efforts of the north to draw it off, we should not now be called to look with astonishment at beholding one-half in bulk and value of western produce seeking a market at the northern Atlantic cities, where twenty years ago, not a dollar was sent through the channels now bearing it away from New-Orleans. It is true, that the reputation of New-Orleans as an unhealthy city, may have served at the time, to stimulate those exertions. But that disadvantage no longer exists. By comparing the bills of mortality of the cities of Boston, New-York, Philadelphia and Baltimore, with New-Orleans for the last five years, yellow fever *and all*, New-Orleans is shown to be superior in point of health, in proportion to population,—that indeed, it is the healthiest city in the United States, Charleston alone excepted.

These matters stated, we come to the discussion of the question how far is the commerce of the west, in relation to New-Orleans, affected by those artificial inland means of transportation?

It appears from the "most reliable sources of information, that the present cost of transportation of a barrel of flour from Cincinnati to New-York, via the Ohio and Erie canal, Lake Erie and the New-York canal, is $1,35. From the same place by way of the Ohio river and Pittsburg and the Pennsylvania works, $1,40, and via New-Orleans, $1,38; besides there is usually an allowance of some 10 or 12 cents to be made per barrel for *extra risk*, and for *soiling* the barrel at New-Orleans, which makes it cost, in fact, by this route, about $1,50. (*See Hunt's Magazine, Sept.* 1848, p. 286.) In this, it is evident the writer is far too low in his estimate of the extra risk and soiling, for it is well known to every merchant conversant with the flour trade, that the soiling *alone* is a disadvantage of twenty-five to fifty cents per barrel. The average of this, then, would make the cost of transportation of a barrel of flour by way of New-Orleans, to New-York, $1,75, being forty cents more than by the way of the Ohio canal, &c., to that city. But it appears by the following letter, the prices have been still more reduced, and we must reasonably conclude they will finally be reduced to as small a sum as will bring a barrel of flour to New-Orleans.

1846?

"Cincinnati, May 2d, 1846.

"Yesterday Messrs. James Wilson & Co., agents for Griffith's "Western line trained a quantity of flour from St. Louis to be forwarded to New York via Miami canal to the Lakes. This shipment "will be followed by others for the same destination. This is a new "feature in our canal business, as well as a new element of prosperity. "The charges on this flour will be nearly as follows:

"Freight from St. Louis per barrel, ...	20 cts.
"Cartage and Cincinnati charges, ...	08
"Freight *thence* to New York, ...	125
"Total charges per bbl. from St. Louis, . . .	$1.53

"Cheap enough in all conscience for carrying 1,775 miles. The "charges on the Southern route would cost about $1.40 per barrel, but "the danger of souring, the *damage* to packages in the transhipment at "New Orleans, &c., will be greater than the difference of freight." (See Hunt's Mag. Octo. 1846, pa. 355.)

This *soiling*, *damage* and *injury* in the transhipment of property at New Orleans is a crying evil, spread all over the South and West, and has already produced wonderful results, in connection with the low rate of charges in transporting property by way of these artificial routes to the Atlantic cities.

In the year 1835, the following description of property came from the State of Ohio, being then the *only* exporting State on these Lakes, and passed through Buffalo by way of the Erie canal to tide water, viz:

1835.		In 1845.				
Flour, bbls.,	86,233	Flour, bbls.,	717,466	Inc. over	800	per ct.
Wheat, bus.,	98,071	Wheat, bus.	1.354,990	"	1,300	"
Staves,	2,565,272	Staves,	88,296,431	near	4,000	"
Bbls. provisions,	6,562	Bbls. prov's,	68,000	"	1,000	"
Ashes, bbls.,	4,410	Ashes, bbls.,	34,602	"	800	"
Wool, lbs.,	149,911	Wool, lbs.,	2,957,761	"	2,000	"

If the statistics of the past year could have been obtained, the increase would have shown a much larger extension of business from the West, through these canals, &c., and the North.

In the year 1845, the receipts of flour at New Orleans were only 533,312 barrels, and that of the year before only 502,507, while wheat for the former years shows only 129,528 bus., and the latter 172,028, showing that the receipts at Buffalo were eight times as much one year, and twelve times as much the other, as New Orleans. In 1836 the whole receipt of flour at New Orleans was only 253,500, and of wheat 6,422 bushels. In staves the receipts at Buffalo were upwards of eighty-eight millions, while the past year at New Orleans they were only 5,679,000.

The Hon. Mr. Wentworth, member of Congress from Illinois, in a speech delivered the past session on the appropriation bill, uses the following language,

"The Lake commerce was more extensive than would be supposed from the very small number of Lake representatives on this floor. In the last five years there were built above Niagara falls 180 vessels, costing $2,500,000; of these, 31 were steamboats and 4 propellers. In the whole Lake trade Mr. W. estimated 60 steamboats, 20 propellers, 50 brigs, 270 schooners; making 400 in all, of 80 thousand tons, costing 4 millions. There are now building on the stocks between Chicago and Buffalo, 10 steamers, 12 propellers, and 12 sail vessels; 34 in all. There are 6,000 active seamen on the Lakes, and their commerce the past season has been all of $125,000,000."

The receipts of flour at Buffalo, &c., during eleven months of the past commercial year amounted to 871,665 barrels, while that of New Orleans for the whole year amounted to only 837,985 barrels! Wheat for the same length of time reached at Buffalo 1,474,871 bushels; and for the whole year, the entire receipts at New Orleans were only a fraction over 800,000 bushels. The whole amount of corn that went forward from the West by way of the canals to New York in 1845, was only 26,716 bushels, and for the eleven months of the past year amounted to the enormous sum of 878,332 bushels, or an increase at the rate of 3,300 per cent. If the statistics, showing as they do a diversion of one-half in bulk and value of Western produce from New Orleans through those artificial channels where twenty years ago none went, what may we expect when all the works now in progress of completion shall have been finished, will be the tendency of the commerce of the great West, considering the dangers of our navigation, and the injuries property is now liable to, on reaching the port of New Orleans? A duty now lies before us—a solemn duty is to be performed by Louisiana to New Orleans, the pride and glory of the State—nay, indeed, of the whole South. To perform that duty understandingly and make it effectual, in rendering the natural advantages she possesses, subservient in placing her at the head not only of the commerce of the United States, but of the whole world, we must meet our Northern competitors upon their own ground, and with corresponding weapons. Where they offer one facility, we must offer a better, until the catalogue of improvements and advantages shall have been gone through with.

But it is evident from the facts and statistics herein exhibited, that the commerce of New-Orleans is now suffering: 1st. From injuries to which produce is liable after it reaches our warehouses. 2d. From expenses to be incurred in sending it forward from the West to New-Orleans, or by way of New-Orleans, when intended for shipment, greater than those expenses are by way of the artificial inland conveyances, to the cities of the north. 3d. In risks from our climate, and the want of those conveniences necessary at all times to protect goods from the weather the moment they come out of the hold of the vessel. 4th. Impediments in the navigation of the Mississippi river and *all* its tributaries, by which risks are increased and insurances advanced.

Under each appropriate head we shall briefly enumerate the evils complained of, and then suggest the remedy.

First. Injuries to which produce is liable after it reaches New-Orleans. Vessels bringing produce to New-Orleans may arrive in a rainy spell of weather, and between showers the cargoes are delivered on the wharf, and all, with very few articles excepted, are injured by the soiling of the packages in rolling them over the wet and muddy wharves. If flour, the injury is estimated at from twenty-five to fifty cents per barrel, and other produce in the same proportion. But if it is corn, wheat, rye, oats, salt, hemp, bagging, bale rope, &c., &c., the injury is much greater. The past year the injury to corn alone is estimated at two hundred thousand sacks, or its equivalent in value. But this property after it has been deposited on the wharf, may, in its transit to the warehouse, or in its transit from the warehouse back to the ship, when intended for shipment, receive heavy showers of rain upon it, and in either case the injury falls upon the owner, but is always charged, though unjustly, to a want of proper care on the part of the consignee, and through him, upon New-Orleans.

Second. The expenses attendant upon sending property through New-Orleans intended to go forward. It must be borne in mind, that three-fourths of the western produce received in New-Orleans is intended for shipment, either foreign or coastwise. To the injuries enumerated under the first head, to which this produce is subjected, and which the owner has to foot, is to be added the expense of double drayage,—that is, drayage from the steamboat to the warehouse, often a mile distant from where it is landed, and then drayage to the ship, when it is to go forward. To this must be added the expences incurred for cooperage, mending, &c., caused by the rough manner of carting, and the rapidity with which drays run over our rough and uneven pavements.

Third. The risks of our climate, and the absence of those conveniences necessary to protect property from any kind of weather the moment it leaves the hold of the vessel. Our merchants have gone to the expense of procuring tarpaulins for this purpose, and however well they may serve to protect produce or merchandize, in a gentle shower without wind, yet it is well known they are of but little avail when the rain is accompanied by hard wind, which is most usually the case. But the dampness from the wet and muddy wharves and levees, no tarpaulin can protect against; and in the case of all grains, hemp, &c., &c., the injury from damp is often disastrous.

Fourth. The impediments in navigation by reason of obstructions in the Mississippi river and its tributaries, from snags, shoals and sand bars, can only be remedied by Congress, as most of them are beyond the jurisdiction of this State, but the others we can remedy ourselves.

The disadvantages that New-Orleans now labours under, and which are here briefly enumerated, are disadvantages that no other commercial city in the United States has to contend with. In Boston, New-York, Philadelphia and Baltimore, vessels come alongside the wharves on which the warehouses are built for the reception of the produce or merchandize. In New-York they have, since the great increase of business from the west to that city, gone to an enormous expense in building what is called the "Atlantic Dock," covering a space of forty acres of ground, where vessels can discharge cargo right into the warehouses, and when it is to be reshipped vessels in like manner come alongside and receive their cargoes from the warehouses, without subjecting the owner to any charge of drayage or risk of damage from wet. In Liverpool, with her growing commercial importance, so imperative was this want felt to be, that to save property from damage on account of weather, and to save expenses in handling it, Parliament sanctioned, by acts passed in 1844 and 1845, the erection ofthe "Birkenhead Docks and Warehouses;" and to them the crown has granted an area of two hundred and seventy-two and one-fourth acres, which form the site of those works, having a frontage of twenty-five hundred yards. The objects, as stated by the Secretary, Macgregor Laird, Esq., are to be the saving of expences to the owner of the goods warehoused on the premises, in

1st. Cartages to and from the warehouses.

2d. Expenses in porterage.

3d. One half the rate of Fire Insurance.

4th. All dock dues.

5th. All pilferage.

6th. Damage from exposure to weather, the goods being under cover from the time they leave the ship's hold, until delivered into the river craft, or upon the rail road car.

The same objects, the same interests, demand for New Orleans the like improvements. The power is with the Legislature to authorize and sustain them. The petition of the Mayor, Recorder and Aldermen of the 3d Municipality now before the Legislature, is intended to effect this object, by clothing the Recorder and Council of this Municipality, with power to authorize the erection of warehouses upon the Levee, in front of Levee street, and collonading over the wharfs. These collonades to be well covered over with slate and zinc, to the waters edge, so that vessels coming alongside can discharge their cargoes immediately under cover, and where the cargo will be protected from rain, damp and mud. This collonade to be sixty feet deep from the outer edge of the wharf, and always open to the public. The warehouses to commence at the end of the sixty feet, and extend back to Levee street. This will secure all property from damage, and it is thought will overcome to a great extent the souring of flour in our climate, by securing to it the free circulation of air from the river at all times; and at the same time secure to the owner, the transmission in safety and good order his property, without the charge of cartage and the numberless expenses now incident to its transit through New Orleans. The streets abutting on the river to be left open for the free passage of carts, &c., to and from the wharfs; but allowed to be arched over and covered in as far back as Levee street—the drays, &c. to pass under the arch.

The Legislature in granting this power, interferes with none of the rights of the other Municipalities: nor with any right of the public to the front so proposed to be improved. All advantages arising from the disposal of the property by the Recorder and Aldermen, by grants for limited periods, to accrue to the Municipality and consequently to the public. The 60 feet proposed to be left open for the public, along the whole front, is a wider space than Liverpool, Boston, New York, Philadelphia or Baltimore presents, and is sufficiently wide for all useful purposes.

In view of the importance of this measure, we have before us the fact, that flour of the same brand, and the same quality, shipped from Cincinnati to New York, by way of the canals, &c., is worth from 25 to 75 cents per barrel more, than that which is shipped by way of New Orleans to the same market. The effect of this is seen on our commerce in this, that by one route, in eleven months of the past year, there went to New York, 33,680 barrels of flour more than came to New Orleans the whole year. Nor is it doubted that a corresponding increase has attended the Pennsylvania works. Looking then at the great increase of Western produce, on one route only, (the New York) and seeing the gigantic efforts still making to add other artificial means of drawing the Western commerce to the Atlantic seaboard—the present cheapness of its transportation, and the probable lower charges, which will annually, hereafter be made, and to all this add, the other works now under way, by New York, Pennsylvania, Maryland and Virginia, and the works of Ohio, Indiana and Illinois connecting the Lakes with the Ohio and Mississippi river, and we think it will be sufficient to arouse the attention of the Legislature of Louisiana and the people of New Orleans to a sense of their danger, their duty and interest; and result in the adoption of such measures and facilities as will arrest this *up stream* tendency of Western commerce, and re-direct it to our great Southern Emporium.

The supineness with which we of the South have hitherto looked upon the efforts of our Northern brethren to draw away from our port so large a part already of the produce of the great Valley of the Mississippi, should be stopped at once, and our energies aroused to apply quickly and effectually the remedies properly applicable to win for New-Orleans not the second or third rank, but the *front rank* in commercial importance over every other city in the world. We have so far given away to the idea that New-York *is* to be *the great city*, that even the Hon. R. J. Walker, Secretary of the Treasury of the United States, in his recent Report just delivered to Congress, uses the following language: "Under such a system of reciprocal interchange of commodities with all the world, the great city of New-York would become (what she is now for the States of this Union,) the great mart for the commerce of the various nations of the earth. Located nearer the centre of the commerce of the world than any European city, she would go on augmenting until she surpassed them all." If we are but true to ourselves, we think that in a few years we shall be enabled to enlighten the Hon. Secretary's commercial geography, and learn him that New-Orleans is that centre, and not New-York.

The signs of the times indicate clearly, that a change in the course of the trade of Asia and the East Indies must, and soon will be brought about. It is also equally clear, that a change is being effected in our territorial limits, which will point out New Orleans as the gathering point, where that commerce will centre,—whether the passage for it across this continent be at the Isthmus of Panama, or from some part of the Gulf of California by rail-way to the navigable waters of the Mississippi, Red River or the Arkansas, or some point on the Mississippi which shall throw that commerce on New Orleans. The expense of such a work on this route, or by way of the Rio Bravo del Norte, besides going through a much superior country in every respect, can be effected for half the cost of Mr. Whitney's railroad to the Pacific, going as it does through barren mountains. The distance is shorter and through a rich and delightful country, free from the ice and snow, that for more than half the year must obstruct the passage of Mr. Whitney's road over the rocky deserts through which it has to pass. Immediately associated with this subject, and intimately connected with the prosperity of New Orleans is the Mexican Gulf railroad, having its terminus near Cat Island, approachable at all times by the heaviest war vessels where a good harbour could be constructed by the General Government safe at all seasons for the heaviest vessels known to the mercantile marine, and even more accessible than that of New York. When this connection with the Pacific is once had, the foreign commerce of New Orleans and the great West will be at once cut loose from the leading strings of New York, and the supplies now purchased in the North for the South and West, will be had direct from the work-shops of Europe, the payments for which will be made in Western produce shipped direct to New Orleans, the great mart for all the nations of the world; and the profits we are now paying to the mercantile gentlemen of New York will be secured to our own city by the enterprise of our own merchants.

If the age in which we live, be distinguished for any one thing more than another, it is in the developement of labour-saving inventions; and by consequence, a saving of money that would otherwise have to be expended in whatever pursuit a man engaged. In one word, *economy* is made to be felt in every department of trade and of life. In view of this we have to meet our Northern brethren as competitors for the commerce of the West and of the world, upon an equal field. And the best speech to induce the shipment of property either to New Orleans by way of the river, or New York by way of the canals, rail roads, &c., from the West, is that speech which addresses its arguments to the pocket, rather than the friendship of the shipper. It is the *purse* that sits in judgment over this controversy; and it is the purse that will decide, and from its decision there *can* be no appeal. If it is made the interest of the West to ship their produce to the Northern Atlantic cities through artificial channels, to the North it will go. Make it their interest to ship to New Orleans, and to New Orleans it will come. It is worse than useless, it is childish to shut our eyes to the facts, which the last twenty years have developed. The amount already of Western produce going forward to the North through these canals, &c., has increased more rapidly in the past five years than the proportionate increase to New Orleans. The statistics already show an amount in bulk and value equal to one-half of what came to New Orleans the past year, where twenty years ago there went nothing. What the amount will be, when all the present works now under way shall have been completed, no man can now properly estimate. Whilst these great efforts are being made by the North, shall we of the South, sit idly by, gazing with folded arms as though bereft of our senses in the contemplation of their stupendous efforts to wrest from us this commerce of the West? NO! Let us put our hand to the work, and never stop until we have successfully and effectually secured that commerce, and placed New Orleans where she deserves to be, at the head of the commercial world. It can be done, and it ought to be accomplished.

The proposed improvement insures safety to the property from any weather—dispatch in unloading and loading vessels—cheapness in the transmission of property, and on the 837,985 barrels of flour received at this port the past year, would have saved, had it been in existence, $209,496 to the owners of it, by securing it from soiling. The saving in grain would have been greater. What is said of these is equally applicable to every thing else shipped to New Orleans. But it may be said by some, that these improvements will throw a large class of useful citizens out of employment, together with their drays. Those who think so, do not reason correctly. It is to bring back to New Orleans the business that has already left it, and more that will still leave it if these improvements and advantages are withheld. Let us first secure the business of the West, by making it to the interest of all her people to send their property to New Orleans, and the occasions for the use of drays will always multiply. If we permit the business to go by way of the Lakes, canals and railroads, we shall lnot only loose the drayage, but the business also. With the business, we secure all its adjuncts and dependencies. Besides it is now no longer a matter of choice with us. We have either to present the advantages ourselves, or they will be presented by our Northern competitors. It may then be too late to apply a remedy. Of the amount of Western produce sent to this city, three-fourths of it is destined for shipment either foreign or coastwise. Now, every steamboat load thus brought to our landing, calls for a ship to carry it away. Every ship and every steamboat so arriving must leave a corresponding amount of money in our city, besides the charges necessarily connected with the transmission of the produce itself.

But this is not all. The goods, wares and merchandize needed to supply this great Western country, coming from the North or from Europe, partake of the benefit of the improvement. They will then be received without risk of injury from wet or damp, either to the packages or their contents, and *speed*, *safety*, *economy*, and *convenience*, are secured to the *owner*, the *shipper*, the *ship*, and the *steamboat* that bring or carry them away. The Turks' Island and Liverpool salt, which is consumed in the West, is here provided for in the easiest and simplest form, and bring heavy and bulky articles, the drayage upon them now is immense, in proportion to their value, to say nothing of the trouble. When New Orleans is cut loose from the leading strings of New York, and will furnish us as she can and ought to do, the importing merchant, to supply direct from Europe as cheap goods as New York, Boston, &c., to the Western retail merchant, and then possessing these conveniences and facilities for trade, a commerce must and will spring up between New Orleans and the great West, by exchanges of products for goods, &c., the value of which is incalculable: and of its results to Louisiana no one can tell the extent and worth. But one thing we do know,—it will make our city the centre of the commerce of the whole world. The object therefore is worth contending for, and is a prize every way worthy of our ambition to grasp.

The obstructions to the navigation by way of the New York Canals, by ice, &c., show an average of the last twenty years, of 124 days for each year, and that the Hudson is obstructed ninety-one days on the average for the same period. On the Pennsylvania works, the obstruction will be about the same as of the Hudson. But we must remember that the rail roads now in progress of completion, will obviate the difficulties of canal transportation and furnish throughout the year advantages, equally available at any season. Nor must we forget, that for several months in the year, the navigation of many of the tributaries of the Mississippi are also totally obstructed by the low water, shoals, sand-bars and snags in summer, and ice in winter. Now these difficulties and obstructions must, and ought to be obviated, so as to secure at all times, safe and easy access to New Orleans at all seasons of the year. In this the whole West and South are deeply interested, and would no doubt act in concert with Louisiana and New Orleans for the purpose of carrying forward any measures needful for the securement of an object so desirable to all. By a concert of action had, it is not doubted, but sufficient appropriations from Congress could be obtained to open *every* river and tributary of the Mississippi, by the removal of snags, shoals, and bars, as would at any season of the year afford an outlet for the vast productions of the West to New Orleans, with but partial exceptions to some of the more northern streams during the winter months, when they might be temporarily closed by ice.

If all these improvements demanded by the interest of the West, and New Orleans especially, were now completed, and the navigation of the Mississippi and all its tributaries rendered what it ought to be, and kept so by annual appropriations, what would New Orleans and her commerce be in twenty years from this time?

The commerce from the West alone, to New Orleans, reached the enormous sum of 77,193,464 dollars the past year. Mr. Calhoun in his report to the Senate, the 26th of June last, upon the great Memphis Convention, estimates that in ten years from that date it would reach 300,000,000 of dollars. This estimate is based upon the ratio of increase annually, which he fixes at eleven and one half per cent. per annum. If the ratio of increase of population continue to the West for twenty years, as it has for the past twenty, and the improvements herein indicated be made now, and the navigation rendered always easy and safe, the annual commerce thrown upon New Orleans will reach over six hundred millions dollars, an amount greater by more than double that of the whole foreign commerce of the Island of Great Britain at this time. A writer in the Commercial Review of the South and West, Vol. III., p. 40, assuming the annual average increase at only ten per cent., which is one and a half below Mr. Calhoun, shows by a calculation therein made that the commerce of New Orleans in twenty years will reach the sum of 571,250,987 dollars. An idea of the magnitude of this trade may be formed by a comparison of last years business, estimated at $77,193,464, and the number of vessels it took to bring and carry it away, with the number it will take to bring and carry away the produce and merchandize, valued at 571,250,987 dollars. To bring the produce of last year to New Orleans, it took

Of flatboats, 2763

Of steamboat arrivals, 2770—5533 vessels altogether. To carry it away it required 2085 ships, brigs, barques, schooners. But the commerce twenty years hence would require

Of flatboats, 20722

Steamboat arrivals, 20774—41496 vessels. And to carry it away, 15637 ships, brigs, barks and schooners: or a daily average of nearly 500 vessels of the above descriptions or in other words there would be at the port of New Orleans a daily arrival of 350 steamboats and flatboats, and a daily arrival of over 100 ships, barks, &c.

A view so magnificent, a prospect so glorious to Louisiana, a destiny so enviable and triumphant to New Orleans, is surely worth contending for.

Art. III.—THE BATTURE FORMATION IN FRONT OF THE CITY OF NEW-ORLEANS.

We have for a long time been desirous of furnishing to our readers an accurate delineation of the changes which have taken place in front of the city of New-Orleans, from the earliest times, in consequence of the incessant and immense deposit which the river Mississippi is lodging here in its onward course to the ocean. We have desired, too, to show the origin, and trace the progress of the various conflicts of rights and interests which have embittered individuals, disturbed courts of justice, and occupied public councils for almost half a century, growing out of the important and momentous question of ownership to property so vast, and in constant course of creation by the hand of Nature. Our studies have not been sufficient to warrant us in the undertaking now, but regarding the subject as of so much interest, and likely to be hereafter brought into general discussion again, we shall continue to give it a patient investigation, and will publish at an early day as satisfactory a paper upon the subject as our ability may admit. All the materials being before us for this article, we shall not anticipate now, further than to introduce the subject, and refer briefly to two movements which have lately been made by different municipal divisions of the city, in relation to this batture property, separating them from the river.

The *Faubourg Marigny*, or what is now known as the *Third Municipality* of New-Orleans, when laid out, reserved for public uses a margin on the river, at that time deemed absolutely necessary for the conveniences of commerce. The notarial act of 1805, by which the donation as it was called to the public, was made on the part of Mr. Marigny, declared la cession et l'abandon de la batture se trouvant au-dela du chemin de la levée bordant le fleuve dans toute la longueur du faubourg, est reconnue—"the cession and abandonment for the purpose of trade of the alluvion or batture, being or lying beyond the levee road, bordering on the river through the whole length of the suburb."

The municipality has lately had cause to regard what was intended as a convenience, in the light of a real disadvantage to its best interests, and to the interests of the trade of the whole city. At a late meeting in Council a memorial was drawn up to the Legislature now in session, complaining of the grievance, and proposing what is regarded to be the remedy. The memorial is before us, and the paper which we publish in the present number of the Review on the "*Contests for the Valley Trade,*" was intended by the author to illustrate more fully the views of the municipal corporation and the objects sought to be attained, than could have been done in the limits of a memoir. We have no doubt that the subject will be deemed deserving of the most serious consideration of our legislators, and that in any action they may take, they will be influenced by the most enlarged views of the true and substantial interests of the city and of the State at large.

The memorialists say:

> "The grant to the public, wide as it is, in some places, was certainly very liberal on the part of the donor, the Hon. B. Marigny; nor is it now desired by your petitioners to change the *right* of the public in and to said batture; but the great and constantly increasing commerce of the city of New Orleans, demand a modification of the same 'to give to trade' all the facilities that experience now points out as absolutely wanting. As the Levees, batture and wharves now exist, evils have arisen, and must continue to exist, until competent authority be conferred upon the Council of the Municipality, to adopt the improvements which time and the ever increasing demands of commerce imperatively require, unless, indeed, it should be considered that this great Southern emporium should forever be behind hand in presenting facilities and conveniences, that the more favourable enactments of other legislatures enable our Northern Atlantic cities to present at all times, the improvements experience may point out as useful."

And in view of all the circumstances they petition

> "That power be conferred upon the Recorder and Aldermen composing the Council of the Third Municipality of the city of New Orleans, over all that space of ground along the whole front of said Municipality, lying between Levee street and the outer edge of the wharves, so that suitable warehouses for the reception, sale and shipment of produce, wares and merchandize may be erected thereon, leaving at least sixty feet front next the river, counting from the outer edge of the wharves, always open to public use, without obstruction, but permitting the said sixty feet to be collonaded over, and well covered, so as to protect all property from injury by wet or mud, and save it from the inclemency of the weather. That the streets butting on the river be always open, but allowed to be covered over as far back as Levee street, so that drays, carts, &c., may at all times have a free passage open, out to the wharves. The sixty feet front to be left open, is a wider space, on the average, than Philadelphia, New York, Boston or Liverpool allows for such objects, and is fully sufficient for all convenient purposes of loading or unloading vessels of every description. The authority to carry out this proposal is asked to be so restricted as that no grant of any portion of this space shall be made for a longer term than twenty-five years, but is asked that power be conferred to make them so long, should the interest of the Municipality require or the wants of commerce demand. The Municipality to derive all the benefit from the grants it makes, upon the terms agreed upon by the parties."

The batture in front of *Municipality No. Two* has been long the source of fruitful litigations, and there is little probability that these will be entirely at rest for some time to come. The compromise made by the city with Livingston and others, opposing claimants, in 1820, has been regarded as enforcing *in perpetuo* a devotion of this batture to public uses, without the right or power remaining in the city or the Municipality under it, to sell, dispose of, or change in any way its nature from that of an open common. We will not now enter into a discussion of this question, but propose only to introduce a few passages from the Report of the Finance Committee of the Municipality made last year, and from the observations of the Chairman of that Committee, S. J. Peters, Esq., explanatory of the Report. That the subject was ably treated will not be denied, whatever diversity of opinion may have existed, and may still exist upon it.

The Report alleges "The great extent of this batture has become an evil of such magnitude as to require the early action of the Council. It causes great depreciation of property in its vicinity, and its width is such as to add much to the charges on produce for labor and drayage. Not being required as a quay or landing, it is worse than useless—and in fact has become a nuisance, and has been so represented by memorials of the citizens. If divided into squares and lots, and covered with commodious stores and warehouses, many millions of property would be called into existence, enriching the city, greatly facilitating the transactions of business, giving profitable employment to capital and labor, and far from injuring the property in its vicinity would greatly add to its value, by the concentration of business and population.

"A disposition of this vast property so advantageous to the public interest, without being prejudicial to any other, it would be but reasonable to suppose would meet with no opposition; but that opposition will be made, is certain, and the sooner the nature of it is understood the better. It is pretended that to apply it to purposes of public utility, as is proposed, would be in violation of the rights of the former riparious proprietors. They abandoned to the city in 1820, for valuable considerations, all the rights which they then claimed to have, in the ground now forming Tchoupitoulas street, New Levee street and all intermediate streets, to the upper line of the Faubourg St. Mary, *that* on which the New Levee was constructed, and to the alluvial formation in front of said New Levee, extending from its base to the line of low water; and it was made a condition, and a very reasonable one, that the ground thus abandoned for Streets and a Levee should not be built upon, nor alienable or liable for the debts of the city. This transaction was called a "donation," but the city exacted from the "donors" to make the New Levee and new Streets at their own expense, and besides, to pay towards the erection of a new Market ten dollars for every running foot of ground fronting New Levee street. Such onerous conditions exacted from "donors" by the recipients of their liberality, seem so very extraordinary, that it may be supposed that they derived by this transaction from the city some important advantages which are not cited in the act; and so they unquestionably did, for by it the right of the city to all the batture then existing in front of the Faubourg St. Mary, from Tchoupitoulas street to New Levee street was abandoned. *It was no donation,* but was a compromise by which the parties calling themselves "donors" were quieted in the possession of property worth a million of dollars, to which their title was doubtful, and with which the rights of the city interferred."

In the speech of the Chairman of the Finance Committee, he is reported to have said:

"That within fifty years the alluvial formations in front of this part of the city, (the Second Municipality,) which have been reclaimed and are now susceptible of private ownership, are worth $5,000,000; which has been equal to $100,000 per annum during that period; that the causes which have produced these astonishing results are in active operation, and from unnerring natural indications, will continue to act for centuries. That the value of the annual alluvial deposits, in front of the Municipality, now, is not less than $200,000; and that, with the exception of the batture between the Faubourg St. Mary line, and Lacourse street, all belongs to this Municipality.

"Such a source of wealth was never possessed by any city before. In truth, it may be said, that nature itself is our tax gatherer; levying, by her immutable laws, tribute from the banks of rivers, and from the summits of mountains, thousands of miles distant, to enrich, improve and adorn our favored city. It would be impious in man to attempt to frustrate or impede these benevolent provisions for our welfare."

Having thus introduced the subject, we shall be the better prepared hereafter for its discussion. For the present we prefer to express no opinion.

Art. IV.—THE MISSISSIPPI RIVER IN THE OLDEN TIME.

A GENUINE ACCOUNT OF THE PRESENT STATE OF THE RIVER MISSISSIPPI AND OF THE LAND ON ITS BANKS TO THE RIVER YASOUS, 1776.

New Orleans, Jan. 14th, 1847.

To J. D. B. De Bow, Esq.

My Dear Sir—The old manuscript which I send you, is, with the consent of my father, placed at your disposal for publication, if deemed of sufficient consequence. It is one of several papers in relation to our early condition, found among those of my grandfather; and is in the hand-writing of his brother, Caleb Carpenter. The two brothers, Richard and Caleb, were partners in business, and having established a commercial branch at Pensacola, they came to Louisiana about 1771, that is before the time of the date of this document, (1776), with the view of extending their operations in this direction. They were, I believe, the first Americans who formed a mercantile establishment in Natchez. This document appears to have been intended as notes for the selection of lands, and other commercial purposes. My father (James Carpenter, Esq.,) who was perfectly familiar from boyhood with the early state of things in this region of country, has furnished much of the material for the notes which I have added to the papers.

I remain yours, most respectfully,
W. M. CARPENTER.

From the entrance of the River Mississippi to the first hut 8 leagues the lands on both sides are low and swampy, and absolutely uncultivable. From this hut to what is called the first *habitation* 3 leagues, the lands are similar to the former. From this habitation to the concession 14 leagues, the lower part of the lands is also somewhat similar to those last mentioned, and is, consequently, very thinly inhabited, and badly cultivated; but the upper part of them is pretty thickly settled by the French and Dutch inhabitants. Few of these, however, have any negroes, none perhaps more than half a dozen; they go chiefly on the cultivation of corn and rice, and on the raising stock and poultry; such part whereof as they can spare from the support of their own families, they sell to the vessels trading up and down the river, and by that means supply themselves with some necessaries and little luxuries.

From the concession to the town of New Orleans 6 leagues, is a tract thickly settled on both sides of the river, by French inhabitants, and in the highest state of cultivation. Indigo is their chief object, though there are here and there some saw-mills, for making cypress lumber, and these planters may be considered wealthy, generally possessing from ten to fifty slaves, which from the amazing fertility of the soil, in the produce of indigo, yield them a very comfortable and genteel revenue.*

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* NOTE BY THE EDITOR.—The contrast as it is furnished by the present condition of this flourishing section of our State, constituting the parish of Plaquemines, and lying below the city, on both sides of the river, to the mouth, with what it was when described by the author of the above sketch, is too striking to be passed over without a remark. A period of seventy years is pregnant with great changes, and in no part of the world more than in ours. Where the "indigo" and the "saw-mills," and the "barren wastes" alone were to be observed, the flourishing sugar estate with its mansion, its mills, its teeming fields, its wealth and its luxuries, are extending further and further,as the river works itself into the ocean. With no natural beauties,—in many parts entirely destitute of trees,—swampy and low, a rich and fruitful soil has yet within its womb the power to engender a garden spot, and the labor of man and his enterprise are creating for our city an avenue from the seas, studded at every pace with all the results of a high and attractive civilization. A prospect, wanting scarce in any element of beauty, shall open ere long from the very mouth of the mighty father of waters, upon the traveler as he approaches its great city, even as it opens upon him now at many an hours distance.

But for these reflections we have not the space. It may be well to observe that the distances as given us in the manuscript description are but mere rough approximations, without the accuracy which we now have reason to expect. But for the general truthfulness of the sketch we have the best vouchers.

The mouths of the Mississippi river are distant from the city from 105 to 115

The French settlements continue, on both sides of the river, for eleven leagues above the town of New Orleans. These lands are also

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miles, running far out into the Gulf of Mexico and forming continually from the sedimentary deposits a more extended alluvion or delta.

At a distance of 95 miles from the city are opened the three great forks of the river, which taking different points of the compass like the roots of a giant tree strike outward from the body. These great outlets of the river have received the names of the North East Pass, the South Pass, and the South West Pass. Standing at what is called the "head of the passes," in the river, the view is one of the finest imaginable, and we naturally place ourselves in the position of the Sieur de la Salle who stood there nearly two hundred years ago—the second if not the first European.

"At length on the 6th of April, 1682," says his biographer, "the river was observed to divide itself into three channels. The Sieur de la Salle separated his company into three divisions, and putting himself at the head of one of them, he took the *western* channel, the Chevalier de Tonty, the *middle* and the Sieur Dautray the *eastern*. The water soon became brackish, and then perfectly salt, till at last, the broad ocean opened fully before them."

The passes of the Mississippi are of unequal depth and facility for navigation. They are incessantly undergoing changes of every kind from the curious formations made by the river. When the Committee of the Legislature were at the Balize a short time ago, they were informed by the elder pilots of "fillings up" of which we could have hardly conceived; of varying channels and of acres of land rising to the surface from the bed of the river, as if by enchantment, forming strange islands. Curious indeed are the workings of nature at the mouth of this "old" river. At some other day we shall exhibit them to the reader by a detailed statement and by all the necessary drawings.

Each of the three great passes radiate smaller ones; as for example, *Cheval, d'Loutre* and a *south easterly pass* radiate from the North East Pass and the grand bayou from the South Pass. The South West Pass extends farthest out into the sea. Between the South and North East Pass the river has deposited a long, narrow and marshy strip of land, known as the BALIZE. This site is approached by the North East Pass upon which it fronts. It is the resort of the pilots of the river, and constitutes their home. They have reclaimed with infinite labour from a waste of waters, in the heart of immense marshes, of treeless plains, of swamps sweeping on every hand, a spot of dry earth, upon which a neat village has been erected. One fails not to admire the industry and the enterprise which fright at no labor, but speak the garden thus out of the dreary and inhospitable waste. In their rugged lives the comforts of home are not forgotten and they have spared no pains upon these homes. Society and civilization have grown up at the Balize. Strange country there, to be peopled by thriving families, to raise prattling children and to entertain schoolmasters!

In ascending the river 22 miles from the head of the passes, are seen the site of the old Spanish fort, St. Bourbon, and on either bank of the river the American fortifications, St. Philip and Jackson.

As far as these forts and for ten or fifteen miles farther the settlements are few, squallid and scattering, and no plantations present themselves. A little on, however, and these last come into view, the latest taken into cultivation first. This property in the highest state of cultivation; indigo being, likewise, the sole object of the planters, some few of whom possess even 100 slaves.

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is found highly favorable for the growth of sugar, and in the extended country below the city as far as the plantations reach, the estates are wealthy and many thousand hhds. of the staple are produced.

According to the statement of Mr. Champomier, furnished in the Report of the Secretary of the Treasury, the following plantations below the city are enumerated with their respective crops in 1844. Since this period many new estates have been commenced at points more distant from the city than the most distant of these, Mr. Osgood's, and their products may soon be expected in the market.

SUGAR ESTATES ON THE RIVER BELOW THE CITY.

Right Side.	Distance.	Hhds.	*Left Side.*	Distance.	Hhds.
Isaac Osgood,	45 ms.	658	Colonati & Adams,	37	152
George Johnson,	42	530	Bruland Brothers,		158
J. B. Wilkinson,	38	525	Eslati Cornin,	36	179
R. Wilkinson,	37	308	P. C. Wedderstrand,	35	286
Col. Maunsel White,	36	610	A. Lesseps,	31	800
Montgomery & Co.,	34	500	Lizardi Brothers,	27	897
Samuel Packwood,	32	836	Buford & Gordon,	26	448
A. Dunford,	31	304	C. Regio,	22	222
W. Erskins,	29	312	F. Delery,	21	215
B. Bahie,		222	M. Ribas,	19	336
P. J. Fleytas,		168	J. Saul,	17	584
B. Bahie,	26	102	A. Lesseps,	16	500
Bernard Marigny,		385	A. Lanaux,	15	441
Rapp & De Blanc,	19	222	J. A. Morgan,	13	635
Estate M. Regio,		385	W. H. Morgan,	12	625
A. Villere,	18	387	A. Michoud,		29
Est D. Urquhart,	17	390	Proctor Brothers,		570
A. Gordon,		383	Mrs. Regio,		565
A. & J. Dennistoun & Co.,	16	515	Mrs. Olivier,		415
Felix Villere,	14	226	P. Reaud,		142
Jules Villere,	13	315	J. Toutant,		400
Caliste Villere,	11	342	Est. Jorda,		298
D. Delacroix,	9	218	Bienvenu Brothers,		285
J. B. Lapetre,	7	330	Est. Jorda,		305
C. Lacoste,	5	355	L. Millaudon,		232
Pierre Hoa,	4	306	Marine & Fagot,		65

(*Left Side Continued.*)

	Ms. from city,	Hhds. made,
B. Poydras,		786
M. & A. Ducros,	12	215
L. D. Beaurgard,	11	136
Mrs. Philippon,	10	202
J. Hewett,	9	116
C. Chiappella,	9	262
G. Villere,	7	372

The Dutch settlements join those of the French, and extend about six leagues further up the river, and are getting wealthy, going principally on the culture of indigo.

The Acadian settlement joins those of the Dutch, extending about eighteen leagues upwards, on both sides of the river, and as high up as the Iberville on the eastern side thereof; and as the inhabitants are industrious they have met with great encouragement from the Spanish Government, and have, as yet, gone wholly on the cultivation of corn, and raising stock.

From the termination of the Acadian settlement, on the west side of the river, to Point Coupée (a distance of twelve leagues), the country is uninhabited, if you except two or three scattered huts.

Point Coupée, one of the oldest settlements on the banks of this river, is perhaps the most beautiful, as well as fertile spot contiguous to the Mississippi. Though these lands have been in constant cultivation for forty years past, yet they do not appear to have suffered the least degree of diminution in the fertility of the soil. The planters here do, even now, sometimes make one hundred pounds of pure indigo, from one acre, and about seventy-five pounds may be considered as their average. One negro will plant and attend two acres of indigo, and, withall can raise his own provisions. These planters generally possess from twenty to one hundred slaves, and, some, more. Last year (1775) fifty thousand pounds of copper indigo, of the best quality (about one-fourth of all the indigo raised on the banks of this river), was made in this settlement. The lands are bounded by a cypress swamp lying parallel with the river, at about a mile distant from it, and that swamp is bounded by the great plains of Apalachée (1) where live a considerable number of French settlers, who raise mules and cattle, and bring them down annually, for sale, to Point Coupée. There are no settlers higher up on the western side of the river.

Previous to a description of the English territory, it will be necessary to make the following general observations respecting the lands, from first point of observation to the Iberville, viz: that the extension of the settlements backwards, on both sides the river, is confined by a cypress swamp, running parallel therewith, so as to give in no place more than a mile, and in many places not half a mile, in plantable land, in depth from the river: that these cypress swamps are bounded, respectively, by the great bay of St. Bernard, and the salt lakes and ponds communicating therewith on the one hand; and by the Lakes Ponchartrain and Maurupas on the other; and that the lands immediately on

(1) Opelousas, is meant.—W. M. C.

the banks of the river being generally higher than those which lie at some distance from it, none of the overflowing waters from the Mississippi ever return into its channel again.

The river or rather creek Iberville, on the eastern side of the Mississippi, bounds part of the Isle of Orleans, and forms the division of the English and Spanish settlements. It runs into the Amit and is almost dry for several months in the year, being never navigable, even for canoes, except when the Mississippi is high. Here is the English town or rather intended town of Manshac, thirty-five leagues from New Orleans, where the English territory on the banks of the Mississippi commences.*

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* Note by the Editor.—We shall not attempt a contrast of the country described with its present appearance and condition. The most prolific, the most prosperous, the most wealthy positions in the State are to be found in this section from New Orleans to Bayou Sara. Our object now is only a few desultory remarks upon some of the points touched in the "description."

1. *The Indigo Culture.*—This was at one period an important staple of this State as it was in other parts of the South. As early as 1720 the planters were furnished with the seed by the Louisiana Company. In 1769 the province exported it to the value of $100,000. Fifty thousand pounds in 1775, is stated as the crop of a single settlement. In 1802, according to Martin, the whole export of the State was but 3000 lbs.; since then it has been entirely abandoned, from the triumphant competition of the East India article.

2. *The Dutch Settlement.*—When the scheme of Law had failed, in 1723, the German emigrants he had seduced over, were only deterred from returning home by a concession made to them on the part of the government of lands on both sides of the river, about twenty miles above the city. They soon became excellent farmers and supplied the markets of the city. "Loading their pirogues with the produce of their weeks work, on Saturday evening they floated down the river and were ready to spread at sunrise, on the first market that was held on the banks of the Mississippi, their supplies of vegetables, fowls and butter. Returning at the close of the market they reached their homes early in the night and were ready to resume their work at sunrise, having brought home the groceries and other articles needed in the course of the week."

3. *The Acadians.*—During the contests between England and France, 1750–60, these people who inhabited a country in Nova Scotia, were driven from their homes by the British, and many sought refuge in Louisiana. The levee and square of the city, says the historian, presented on their arrival a spectacle not unlike that they offered about a quarter of a century before, on the landing of the women and children snatched from the hands of the Natchez. Like those the Acadians were greeted with tenderness and hospitality. Every house in the city afforded a shelter to these unfortunate people. Charity burst open the door of the cloister, and the nuns ministered with profusion and cheerfulness to the wants of the unprotected of their sex. They settled above the German coast, on both sides of the Mississippi, and in course of time their plantations connected the latter settlement with that of Baton Rouge

The first settlement from thence, two and a half leagues from the Iberville, is Mr. David Williams'; and from the lower line of this settlement to the boundary of Mr. Mitchell's tract (two and a half leagues) the lands are level, or rather low, but sufficiently dry and firm, and withal extremely fertile. In this space are six settlements.

From the lower line of Mr. Mitchell's tract to the upper boundary of Mr. Watts' plantation (1) two miles, a level, beautiful, amazingly fertile plain, and about a mile in depth, runs parallel with the river, at the extent whereof commences a gradual rise, terminating in another level equally beautiful, the whole being covered with oaks, magnolias, canes, &c. This tract is capable of the highest degree of cultivation, either for health, wealth, or amusement; the upper level being adorned with several natural mounds, commanding very extensive views of the river (which here makes a fine angle), and of the lands opposite and adjacent; yet there are only two settlements in this space, though the whole of it is located.

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and Point Coupee. It is at this day known by the appellation of the Acadian Coasts.

4. *Baton Rouge.*—This does not appear by name in the sketch above though the writer describes the vicinities. It is a very ancient town and has witnessed chivalrous deeds in arms. We had the pleasure not long since of calling upon the venerable General Thomas, who is perhaps the only survivor of those brave men. The growth of the town has been chiefly since these events, and as it has now been made the Seat of Government of the State, great interest will be manifested in it. The history of Baton Rouge from the earliest period is a desideratum. The following passage from Martin shows its early origination.

"The only settlements then begun below the Natchez, were those of St. Reine and Madame de Mezieres, a little below Point Coupee; that of Diron d'Artaguette at Baton Rouge; that of Paris, near Bayou Manshac; that of the Marquis d'Anconis, below Lafourche; that of the Marquis d'Artagnac, at Cannes Brules; that of de Mense, a little below; and a plantation of three brothers of the name of Chauvin, lately come from Canada, at the Tchoupitoulas."

For the name, *Baton Rouge*, we have heard various derivations assigned. Mr. Gayarre, in his history of Louisiana, relies upon this, which we translate: It is known that the cypress, of which the bark has a red colour, grows to a prodigious height; its trunk is without branches, and its head only is crowned with foliage, being as it were the capital of the column. Le Page du Pratz relates that in his time a famous cypress was seen there, from which a ship carpenter had offered to make two boats, the one of 16 and the other of 14 tons burthen. "As the cypress is a red wood," says du Pratz, "one of the first travelers in this vicinity remarked, that in his opinion this would make a fine *baton* (pole); for this reason the place was called Baton Rouge (red pole)."—Hist. Louisiana, vol. II., par Chas. Gayarre.

(1) This plantation extended to the high ground on which Baton Rouge is situated. I cannot account for the entire silence respecting this place, though at this time it was little more than a station occasionally occupied by troops.—W. M. C.

From the upper line of Mr. Watts' settlement to Mr. Pousset's plantation, two leagues, a cypress swamp a quarter of a mile in depth, runs parallel with and very near to the river; the settlers here living on the high lands back of the same, which cut off their communication with the river for a considerable part of the year. In this space are five settlements,—Mr. Pousset is settled on part of Governor Johnson's(1) ten thousand acre tract, the lands whereof are generally high to the edge.

From Mr. Pousset's to Mr. Cummings plantation opposite to the first island,(2)—three and a half leagues,—the front lands are generally overflowed, and are called "the Devil's Swamp." Within this tract Governor Brown(3) has located two thousand acres. Between Mr. Cummings' plantation and Brown's Cliffs,(4)—one league,—where Governor Brown has located another tract of seventeen thousand acres, there are about half a dozen pretty good settlements. At the upper part of these cliffs is Thompson's Creek,(5) navigable for batteaux when the river is high, and for canoes when it is low, to that vast tract of country called "*the Plains*,"(6) lying back of Governor Brown's last mentioned tract, and calculated for raising and feeding great quantities of hogs, cattle, &c. Between this creek and Mr. Willing's settlement,(7)—which is a very beautiful and fertile one, nearly opposite to another island in the river,—a distance of about twelve leagues, there are half a dozen more good settlements.

From Mr. Willing's plantation to the Natchez Fort,—forty leagues,—are only two settlements of any note on the banks of the river.(8)

(1.) British Governor of Florida.—(W. M. C.)

(2.) This island, once called l'Isle d'Ibberville, is now called Prophet Island; and Mr. Cumming's plantation is now known by the name of the Springfield Plantation. —(W. M. C.)

(3.) He was the British Governor of the Bahamas.—(W. M. C.)

(4.) These are the bluffs which extend from Port Hudson along the river for three miles. These were called Brown's Cliffs when Bartram travelled here in 1773, and are readily identified by the curious lignite bed which that traveller observed, and which was described by me several years since, in Silliman's Journal.—W. M. C.)

(5.) Thompson's Creek was called by the Spaniards the Rio de la Feliciana.— (W. M. C.)

(6.) These small prairies, once called the "White Plains," are known as Buhler's Plains.—(W. M. C.)

(7.) Now called Tunica. The Bayou Tunica was called Willing's Bayou as late as 1799, and is mentioned under this name in Ellicott's Journal.—(W. M. C.)

(8.) Neither the Bayou Sara nor any settlement at its mouth are mentioned here.

Previous to a description of the Natchez lands, it will be necessary to make these general observations, viz: That from Thompson's Creek to the Natchez Fort, a cypress swamp about half a mile in depth, runs parallel with the river, and generally cuts off its communication with the several plantations, for some part of the year; and, that from Manshac to that fort the lands back of all the settlements are either high or woody, or spacious plains, (yet very fertile,) and here and there interspersed with lakes and ponds, abounding with fish and wild fowl.

The Natchez, late a French settlement, is seventy leagues from Manshac, one hundred and five from New Orleans, and one hundred and forty from the sea. Within this district, which takes in a very large tract of country, are the most fertile, beautiful, healthy and variegated lands in this province, or perhaps in the whole continent of America. Watered by abundance of springs and rivulets, without swamps, and every where interspersed with spacious clearings, once old Indian fields, or French plantations, fit for immediate cultivation. This district is chiefly located, though not yet much settled, and lots may be purchased here on very moderate terms. It is also proposed to lay out, immediately, a township, with lots contiguous to the same, on part of the kings' reserve of ten thousand acres near the fort; which lots are to be sold at vendue next Spring, at Pensacola, or on the spot.

It may here be well worth observing, that there are many scattered settlements on the eastern side of the river as high up as the river Yasous, which is about fifty leagues above the Natchez fort, and one hundred and ninety from the sea. The lands improve, if possible, in beauty at least, if not in fertily, as you proceed from the Natchez.

The current of the Mississippi is ever rapid, but particularly so when it is full; and it rises, annually, at the Natchez, thirty-five feet above its usual height, and then its navigation is a good deal incommoded with floating logs and trees.

The setlement at Bayou Sara, or St. Francisville, only commenced about 1790, when Mr. John Mills established at this place. The French, however, had a store, or as it was called "*Magazine,*" on the eastern bank of the Bayou Sara, about ten miles from its mouth, at the place still known as Mr. La Jeune's plantation. This was a trading depot. The Bayou Sara has long been known by this name, but in a copy in my possession taken from an old map in the Bureau de la Marine, in Paris, this stream is called *La Riviere de la Pucelle Juive.*—(W. M. C.)

Art. V.—GEOLOGY OF THE MISSISSIPPI VALLEY.

General Observations relative to the Geological revolutions and physical changes in the Valley of the Mississippi.

PART I.

It is beyond our design to enter into any minute examination of the geological formation of this great region, but merely to glance at the primitive condition and the subsequent changes and revolutions which may have taken place in this portion of the globe. A great portion ot these revolutions may have been effected while the primitive ocean rolled its waves, with a depth of many hundred feet over a great portion of this continent. Other important changes and revolutions, gradually adapting its surface to the use of the different orders of animals and man, may, and some of them certainly have been effected since the recession of the waters.

That many important changes have taken place in the surface of this continent, and in the valley of the Mississippi since the recession of the waters of the primitive ocean, none can deny; for the facts are too plainly recorded in the great volume of Nature, where all may read and see for themselves. The power by which these changes and revolutions were produced, was no less than the *fiat* of the omnific Creator, and the eternal laws of Nature, established at the creation of matter, and continued in operation ever since by the overruling Providence of the same Almighty power.

Besides the unalterable laws of nature, which are in constant operation, the agency of man promoting the operations of physical forces, may contribute to produce many new changes of surface. The combined operation of these agencies might produce a speedy change in the actual condition of a large portion of the valley of the Mississippi. Small changes in the relative position of a few rocks may produce extensive changes in the relative condition of large bodies of land and water.

A single instance may illustrate the principle. In the north-eastern portion of the valley of the Mississippi, there are large lakes or inland seas, which together, occupy a portion of the earth's surface equal to nearly one-half of the gulf of Mexico. The bottoms of the larger lakes are several hundred feet below the surface of the gulf; although their surfaces are from two hundred and thirty to six hundred and fifty feet above the same level. By the removal of a portion of the rocky barriers which confine these inland seas to their present elevation, the greater portion of all these lakes or seas might be drained, and their waters discharged through the upper Mississippi and Ohio rivers into the gulf of Mexico, until their surfaces should be reduced from two hundred and fifty to three hundred and fifty feet below their present elevations: the smaller lakes would thus become dry land, and the larger greatly contracted in extent.

There is ample geological evidence of former changes around these lakes, indicative that at some former period they were far more extensive than their present outline, and that their surface at a comparatively recent geological date, has been elevated nearly to the level of the surrounding highlands, which now rise several hundred feet above the waters.

This former elevation has been reduced to the present level by the gradual and successive removal of portions of the firmer *strata* and the rocky barriers by which the waters were confined, before the present channels of the St. Mary, Detroit and Niagara rivers were opened. The lowest and deepest of those channels is the gorge of the Niagara, which has been excavated to the depth of three hundred feet, by the continued action of running water, and the disintegration of the lime-stone rock.

Since the removal of these barriers, the level of the upper lakes has been reduced probably not less than two hundred feet. By this reduction extensive undulating plains and marshes have been exposed along their shores; which by the subsequent action of rain-floods and running waters, have been shaped into beautiful habitable lands.

Were these barriers still further removed, until the gorge of Niagara should extend into Lake Erie, that lake would be completely drained, for its deepest portion now scarcely exceeds one hundred feet. The same gorge continued to Lakes Huron and Michigan, would lower their surfaces not less than two hundred feet, and restrict their shores to less than half their present extent, exposing extensive undulatory plains and sand hills around their shores, to be shaped subsequently by running waters for the use of man and beast.

A similar gorge opened from Ottawa on the Illinois to Lake Michigan, would reduce the surface of Lakes Michigan and Huron at least one hundred and eighty feet; and reversing the course of the Detroit and St. Clair rivers, would discharge the waters of Lake Erie and Lake Huron over a cataract at the present straights of Mackinac, to find their way to the Gulf of Mexico, through Lake Michigan to the Illinois and Mississippi rivers. Such a change in the relative position of these large bodies of water on our northern boundary, would greatly diminish the extent of the northern lakes, and reverse the tide of commerce from Lake Ontario to the Gulf of Mexico.

The relative positions of the Gulf of Mexico and the Pacific Ocean are such that by one of those revolutions of nature which have taken place repeatedly in the lapse of geological periods, a change might be effected in the whole Atlantic coast of the United States, from the Chesapeake Bay to the Capes of Florida, and upon the whole northern coast of the Gulf as far as Mexico.

The surface of the Gulf has been estimated by competent geographers to have an elevation of some twenty-two feet above the adjacent Pacific Ocean, lying west of the straits of Darien. These two oceans are separated by a narrow neck of land scarcely sixty miles in width. The region north and south is of igneous origin; and one of those great volcanic disruptions which separates continents, and detaches, elevates and sinks islands,(1) might disrupt the Isthmus of Darien, and connect the two oceans by a strait not inferior to that which connects the Mediterranean sea with the Atlantic Ocean. The waters from the Gulf of

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(1.) In Imlay's America, p. 90–92, (Lond. Ed., 1792,) we find the following, viz.: "There is no doubt that many such accidental changes have occurred in the world before it became settled in its present condition and state. That there have happened some such accidents by which the general body of land and water hath been changed in America, we have reason to infer from the Chinese chorography, called *Quan-ynki*, which describes *Tshaossanas*, in Córea, which is now divided from it by the gulf of *Leaa Tong*, where the sea has encroached so much that the mountain *Kieshenkang*, which was formerly part of the continent, is now nearly five hundred leagues off at sea. If the land of China became thus much depressed by the change of the centre of gravity in the earth, those parts of America which lie in nearly an opposite meridian, would be equally raised. No doubt many partial deluges have happened from such causes; the reason of which, for want of knowledge in what had passed on the opposite side of the globe, could never be explained. Some such changes may have come gradually, and advance by such slow degrees, that in a period of a few ages would not be perceptible; history would therefore take no notice of them. We know by observation how much higher the Atlantic ocean is than the Pacific, and how it is piled up against the American coast on the western shore of the Gulf of Mexico, driven thither by the trade-winds and the attraction of the sun and moon. Let us suppose, if possible, that a passage might be forced through the Isthmus of Darien, or some other part of America between the tropics; these waters would then pour down from this height and be discharged through this passage, instead of running back through the Gulf of Florida. The height of the Atlantic would be lowered between the tropics, and the level of the Pacific Ocean would rise; the centre of gravity of the earth would shift, and there would be few places on the earth but what would perceive the effect; although none would be able to conceive the cause, that did not know the particular event of this passage being opened."—*Imlays America*, *p*. 90–96.

Mexico, with an ocean current, would discharge themselves through this strait until its surface should be reduced to the level of the Pacific Ocean. Were the surface of the former reduced only fifteen feet what immense changes would the whole Atlantic and Florida coasts present? How many sea-ports would loose their harbours; and how many shoals would become dry land? How many miles of arable land would be added to the *delta* of the Mississippi river, as its course would be prolonged into the Gulf through the bars and shoals which now extend beyond the Balize?

Let us imagine the condition of this continent when the primitive ocean rolled its chaotic waves over it, before "the Spirit of God moved upon the face of the waters;" let us imagine the first separation of land and water; the first formation of the different deposits; the inceptive stratification of the older stratified rock; which by the play of their respective chemical affinities, have since been converted into the various kinds of lime-stone and marble; or of slate and shale formations: let us also consider the force of gravitation in settling and compressing the softer strata; the draining, sliding, and caving of the higher portions of the less indurated earths; let us conceive the powerful agency of internal fires; the expansive action of heated vapour or steam; the explosive effects of inflammable gases in displacing the firmer strata, whether by the terrible upheaving of earthquakes, or the eruptions of earthy matters thrown up by sub-marine volcanoes, which, in the lapse of geological periods may have not only changed the relative position of the strata near the surface, but which have also thrown vast masses of melted rocks through the superincumbent stratified rocks, to the surface. After a comprehensive view of this kind we shall be prepared to judge of the innumerable changes which have possibly been effected near the earth's surface since the first creation.

When we remember the plastic matters by which many portions of the earth's surface is covered, to the depth of many hundred feet in many places, and the consequent slips and slides of the more elevated portions undermined by the deep excavations of vallies, caused by the force of the retiring ocean, and the subsequent changes by rain-floods and running waters, we can form some idea of the manner in which the surface of the earth received its present form and features, chiefly before the perfect induration of the rock strata through which the great river tributaries have opened their channels.

Relative to the primitive changes or creative revolutions of that portion of North America comprised in the Valley of the Mississippi, as deduced from geological indications, I shall adopt the arrangement of the learned Professor Rafinesque, as set forth in his "Pro Clio," or "*Geological Annals of the Revolutions of Nature in Kentucky.*"

The Learned Professor observes, that

1. "Every complete history of a country ought to include an account of the physical changes and revolutions which it may have undergone.

2. "The documents for such a geological survey are to be found every where in the bowels of the earth; in its rocks and strata with the remains of organized bodies imbedded in them, and which are now considered as the medals of nature.(1)

3. "The soil of the Mississippi valley shows, like many other countries, that it has once been the bed of the ocean. In James' "Map of the Primitive Ocean," North America is supposed to have been covered by the waters to the depth of *six thousand feet* above the present level of the sea. Hence, as no portion of the table-lands within the Valley of the Mississippi exceeds eighteen hundred feet above the level of the present ocean, many portions of this great region must have been once covered by the waters to the depth of more than four thousand feet."

4. "The formation of the soil throughout the greater portions of the valley proves evidently the gradual and successive recessions of the salt water, without exhibiting many proofs of any very violent or sudden disruptions or emersions of land, or eruptions of the ocean;(2) except some casual occurrences, easily ascribed to earthquakes, salses, and sub-marine volcanoes."

5. "There are no remains of lava or burning volcanoes in the Mississippi Valley. All the strata are nearly horizontal, with vallies excavated by the former tides and streams during the *soft state* of the strata."

With these preliminary remarks of the learned Professor, I shall follow his division of the successive revolutions, or geological changes

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(1.) This disquisition of the learned Professor, Constantine S. Rafinesque, formerly "Professor of Natural History, Botany, and Geology," in Transylvania University, was prepared and published as a geological and historical proem to Marshall's History of Kentucky. This learned and indefatigable naturalist, a Greek by birth, traversed on foot, in his scientific rambles, nearly every section of the United States; he was honorary member of nearly all the learned societies in Europe and America. To correct some expressions resulting from his foreign idiom, I have changed the phraseology slightly, in a few instances, and substituted the word "*present*" for his word "*actual.*" The whole tenor of his observations as applicable to Kentucky, are equally applicable to the general Valley of the Mississippi, and I have made the application under the commentary, or scholium.

(2.) The region near the north-western great lakes, and as far south as the prairies of Illinois, south and west of Lake Michigan, must be considered an exception to this general rule,—the extensive region of "drift" and boulders speak for themselves.

in the formation of this great region, corresponding to the *six days*, or epochs of creation, each having an indefinite period of duration.

These periods or epochs are enumerated and designated as follows, viz.:

1. The period of *General Inundation.*
2. The period of the *Emersion of the Mountains.*
3. The period of the *Emersion of the Table-lands.*
4. The period of the *Draining of the Lime-stone Sea.*
5. The period of *Noah's Flood.*
6. The period of *Peleg's Flood.*

We will briefly consider each of these epochs or periods, in the next number of the Review, together with the probable changes and formations properly pertaining to each.

Art. VI.—COMMERCE, RESOURCES, ETC., OF OHIO.

The State of Ohio, which was admitted into the American Union in 1802, has become already through the fertility of its soil and the energy and thrift of its people, one of the most important members of that Union, both in wealth and in population, and exercises a degree of influence on our federal councils second only to that of the great States of New York and Pennsylvania.

The admirable message of Governor Bartley, delivered 8th December last, affords us a vast amount of information in reference to the internal condition, resources and prosperity of the State; and feeling as we naturally do in Louisiana and in New Orleans the liveliest interest in the welfare of a community with whom our commercial relations are so intimate, it is impossible that a few pages in our Review could be better occupied than with a few of the facts presented by the Governor and obtained from other reliable sources. The design of the Review is to treat from month to month of each of the States of the South and West, in a similar manner, and ultimately of the States of the whole Union, thus furnishing a body of information of incalculable value for present use and future reference. If the citizens of different States who have the means of information at hand would aid us in any way in the enterprise, the service we cannot doubt would be universally appreciated.

The first permanent settlement in Ohio was made in 1788, at Marietta. French settlers afterwards were located at Gallipolis in 1791. Cleaveland was settled in 1791 by emigrants from New England. From this humble beginning have grown up in half a century a powerful State!

In the construction of her numerous public works the State of Ohio has contracted a large public debt, the interest upon which, however, she has always met with great and commendable punctuality. According to the Governor's statement the debt is

Total foreign,	$16,964,292 50
Total domestic,	765,136 12
School and trust fund,	1,482,682 68
Total debt,	$19,212,111 30

The returns of property valuations in the State for purposes of taxation were in 1845,

Acres of land,	23,216,286	Valuation,	$85,916,169
Town property,			22,269,575
Number of horses,	387,200 *a* $40		15,488,000
" " cattle,	725,253 *a* 8		5,786,824
Capital in trade and at interest,			13,556,517
Carriages for pleasure,			1,055,742
Stages and stage stock,			87,762
			$144,160,469

The following table will exhibit the increase in population.

1802	50,000		
1810	230,760	Increase in 8 years,	180,760
1820	581,434	" " 10 "	350,674
1830	937,679	" " 10 "	356,245
1840	1,515,161	" " 10 "	577,482
Total increase in 38 years,			1,465,165
Average increase per year,			38,557

Estimated population in 1845 over 2,000,000.

The agricultural capacities of Ohio are unlimited. We learn from a paper prepared by John Brough, Esq., that the valleys of the Scioto and Miami are extensively cultivated in corn, oats, and as meadow lands. Large bodies of these lands are quite level, and the soil is of a rich, deep, and durable character. There are probably no better corn grounds in the Union. In many instances, fields have been cultivated in this crop for forty years in succession, without any evidence of failure in the soil. In the valley of the Sciota, and the territory lying between that and the Miami, there is raised and fattened a great number of cattle, most of which are sent to the eastern markets. Both these valleys—the Scioto and the Miami—are famous for the number and the quality of their hogs.

TOTAL AGRICULTURAL PRODUCTS OF OHIO IN 1844.

Bushels of wheat,	15,969,000	Value	9,581,400
" " barley,	191,000		114,600
" " oats,	20,393,000		3,058,950
" " rye,	840,000		504,000
" " buckwheat,	792,000		475,020
" " corn,	48,000,000		9,600,000
" " potatoes,	4,847,000		1,211,750
Tons " hay	1,876,000		11,256,000
" " flax and hemp,	1,000		60,000
Pounds " tobacco,	6,888,000		275,520
" " silk cocoons,	31,500		126,000
" " sugar,	4,380,000		306,600
Making a total of			$36,570,020

This statement does not embrace the pork, beef cattle, horses, over and above the usual stock, sheep, wool, butter, cheese, and divers other items, which, it is safe to say, if they could be in any wise correctly ascertained, would swell the value of the agricultural products of Ohio to at least forty-five or fifty millions of dollars annually.—Governor Thomas W. Bartley in his message to the General Assembly in December 1844, estimated the whole products of the State as follows:

Agricultural	in value, ...	$45,362,400
Manufactures	" "	17,505,600
Commerce	" "	9,660,379
Mineral	" "	2,931,218
Forest and lumber	"	1,013,063
Fisheries,	"	10,525
Total,	. . . . . .	$76,483,188

MANUFACTURES OF OHIO.

At Steubenville—cotton, woollen, iron; coal in the vicinity. At Mount Pleasant—silk, the raw material of which raised in the State; culture encouraged by State bounties. Zanesville—iron works. Dayton contains many cotton and woollen factories, cotton, paper and flouring mills, &c. Akron and Cincinnati both contain the rising and growing manufactories. The State has great facilities for these purposes.

MINERALS OF OHIO.

Bituminous coal in large quantities; valued in Cincinnati at about 12 cents per bushel. Salt is obtained abundantly from water yielded by boring, and extensive works have been constructed. Iron ore exists also in large quantities.

"The mineral wealth of Ohio is not and will not be for many years to come, fully developed. The remark that has been made in regard to our manufacturing advantages, may be applied here with equal force. There is no lack of enterprise among our people; but they do not possess the capital necessary to call forth into active exercise and usefulness, these mighty treasures of the earth. Perhaps no State in the Union offers greater inducements to the investment of capital, in this particular, than the State of Ohio. There is here that rare combination so seldom met with, of iron ore, coal, and water power, not only in the same districts, but in the immediate vicinity of each other. The State, in her corporate capacity, has done all that justice requires, or her means will justify. In all these districts abounding in mineral wealth, canals and other public works have been constructed, and are now in successful operation; thus adding to the advantages already enumerated the facilities of transportation to every other section of the State, and an outlet to the markets of the world. The day cannot certainly be far distant, when these signal advantages will attract the attention of capitalists; and then the mineral wealth of Ohio, in its developement, will rank the State as high in that particular as she now stands in the vast amount and value of her agricultural productions."

PUBLIC WORKS.

The Ohio canal was undertaken in 1825, completed 1832, connecting Lake Erie at Cleaveland with the Ohio at Portsmouth—334 miles; cost $4,694,934 19. The Miami canal from Cincinnati to Dayton, 87 miles, cost $1,387,552 16. Hocking canal through the salt and coal regions, cost $1,000,000. Walhording canal, 25 miles, cost $610,000. All of these communicate with each other. The Muskingum improvement of the river of that name by dams and locks from Dresden to the Ohio at Marietta. The Wabash and Erie canal first commenced in Indiana and continued from the Ohio line to the Maumee Bay, 87 miles, cost about $3,000,000. The Miami extension is connected with this, cost

$3,500,000. All of these works are of a State character. The State also holds stock in the Pennsylvania and Ohio canal, and in the Milan Canal Company, the White Water and Mad river canals, besides several railroads and turnpikes. The whole will appear in the following table:

	Length.	Cost.	Revenue in 1845.	Expenditure.
Ohio canal,	334	$4,695,203 69	$252,199	$129,184
Miami canal,	85	1,237,552 16	74,320	36,641
" extension,	139	2,856,635 96	32,007	189,727
Wabash and Erie canal,	91	3,028,340 05	73,907	51,659
Walhonding,	25	607,268 99	28,461	19,655
Hocking canal,	56	975,129 57	4,520	6,953
Muskingum Imp.,	91	1,627,318 29	1,184	2,748
Western and Maumee,	31	256,334 93	6,613	2,664
	852	15,283,783 64	473,211	441,131

Cincinnati, the metropolis of Ohio, is, and has been for some time, the great city of the North-west. Although an object of history for a much earlier period, the city contained in 1795 but 500 inhabitants; in 1805, 960; in 1810, 2500. It was chartered as a city in 1815; in 1846 estimated as high as 80,000 in population, and by its rapid increase bewildering our conceptions of the future.

The number of hogs slaughtered in Cincinnati has increased from 85,000 in 1832, to 240,000 in 1843, and over 300,000 in 1846; number bbls. flour made in 1846, 100,000; gallons linseed oil, 26,000 cake, of which sent to New Orleans and Liverpool. The engine shops are extensive, and the number of steamboats fitted out very great, upwards of fifty annually. Besides this, there are white lead and cotton manufactories, etc., etc. The city has yet attained but a tithe of her importance.

"The rapid growth of the State," says Mr. Brough, "and her increase in wealth and prosperity, are the best evidences of her advantages, the surest indications of her future greatness. Located in the very heart of the Union, with a soil unsurpassed in fertility by that of any other State, with living streams flowing through, and abundantly watering every section; rich in mineral deposits; possessed of every facility for manufacturing; her whole Southern and Southwestern border washed by the navigable waters of the Ohio; and the interior traversed in every direction by turnpikes, canals and railroads, enhancing the value of property, and affording outlets to the markets of the world; and with all, an enteprising, industrious, and intelligent population, the future is to Ohio as full of promise as the past is of high and ennobling pride to her own citizens,—of wonder and admiration to the world. In view of all the advantages she possesses, of what has been done in the last twenty years, and of what the next twenty is certain to accomplish, who can set bounds to the future wealth, power and greatness of this YOUNG GIANT OF THE WEST?"

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Art. VII.—MERCANTILE BIOGRAPHY.

JAMES COEUR, DE MEDICIS, ROSCOE.

"For thy *marchauntes* were the great men of the earth."—OLD BIBLE.

"Thou hast multiplied thy merchants above the stars of heaven."—NAHUM, III. 16.

The importance of the mercantile profession was little, if at all, understood by the most advanced nations of ancient time. Many of them considered it disreputable and servile to be connected in any manner with traffic, and they regarded its votaries as necessarily a very inferior order of men.

We find this feeling evinced to a much later period with different degrees of strength, even down almost to our own times. As the arts of peace, however, have been encroaching upon the domain of violence, and distant nations from all the earth have been drawn together and united by a common bond, and under a common sovereign, the absurd prejudices of the past are gradually giving way, and the ministers of commerce have come to be regarded in the highest esteem.

To bring about this better state of things, it cannot be denied the influence of a few of those eminent characters, who have in the past two or three centuries dignified trade as well as human nature itself, has greatly contributed, and their memories should be treasured and their examples copied by all who would serve their generation in a similar manner. It is in this view that we would sketch hastily and in rather a random manner, a few passages in the department of biography, and hereafter, from time to time, continue the subject with method and precision.

But first, however, we shall show the gratifying exceptions which history furnishes to this disfavour of mercantile men in certain countries, and also the various privileges which, by reason of its general importance, has been conferred upon trade in some modern countries.

In France, by the arrets of Louis XIV., 1669, 1701, a nobleman is allowed to trade by land and sea, without any disparagement of his nobility, and the French have sometimes ennobled their merchants for great enterprises.

The English began early their patronage of merchants, and by a very ancient ordinance the degree of Thane, a rank of nobility, was conferred upon him who had made a certain number of trading adventures by sea. By Magna Charta of King John, it was enacted that all merchant strangers, in amity, shall have safe conduct to come into, depart out of, and remain in England, and to travel by water and land in and through the same. This was a very liberal provision in favour of trade. "It is true," says a writer of the last century, "that trade stands so fair in the esteem of an Englishman, and promises so many occasions either for raising or improving a fortune, that many younger sons and brothers of peers are frequently bred up to and embrace it, but they are too apt to quit it on succeeding to the dignities of their families. It is an unhappiness in regard of traffic, that many gentlemen who have been enriched by it, or their inheritors, frequently withdraw from it either to live in retirement, or by an advancement to honor and posts, change the tranquil and pleasurable mercantile employ for the more troublesome, though splendid one of grandeur and power."

In Italy, many of the princes two centuries ago were the principal merchants of their several states, and esteemed it no dishonour, as we are informed, to make their palaces serve as warehouses.

In Asia the kings themselves are sometimes wont to traffic with Europeans, either individually or through their ministers, and the same may be said of some of the African princes.

But let us proceed to our biography, and select a few characters. We begin with

1. James Coeur.—This celebrated and remarkable man was a native of Bourges, in France. He was the son of a merchant who by skill and enterprise so extended his operations as to make the sum of his gain annually more than that of all the other merchants in the kingdom together. To follow the language of his biographer, Beawes, in the *Lex Mercatoria*, his commerce was extended in all the Mediterranean; he trafficked in Asia with the Turks or Persians, and the other subjects of the Sultan of Babylon, and in Afric with the Saracens.

It was by the city of Montpelier that he carried on so great a trade. He constructed in this town a magnificent *Exchange* for the merchants, and it is said that what was most admired in it were the basso relievos, in medallions, which ornamented the front, and which employed the idle curiosity of those whose faith in the philosophers stone remained unshaken. It was supposed that these were but enigmatical emblems under which Coeur hid those mysteries of his life by means of which had been acquired his almost untold wealth.

This great merchant was made Grand Treasurer to Charles VII., but the elevation is said not at all to have interrupted his trade; and his lofty patriotism was exercised in appropriating from his vast treasures to the support of the realm whose exchequer had been exhausted by continual wars.

In effect, says Beawes, very soon the armies were only raised and maintained at the expense of this disinterested minister. He advised the conquest of Normandy, and he alone was at almost all the charge. When he went in embassies to Rome, a fleet of twelve ships, which accompanied him belonged to him entirely, and it was he that was at all the expense of fitting them out. In a word, after Charles had associated James Coeur in the government of the State, there was nothing in France that was great and considerable that was not supported by the credit of this sage and rich merchant, and wherein he did not employ the better part of the great effects that arose to him from his trade. All the *philosopher's stone* of this fortunate and able man consisted only in his great trade.

De Medicis.—It was not until the beginning of the fifteenth century that this family, reserved to so great a fate, ought properly to count the epoch or era of its elevation; and it is to Cosmo de Medicis, that famous citizen of Florence, who so justly merited the name of *great*, Father of the People and Deliverer of his Country, that it is indebted for the first, or at least the most solid foundation of a grandeur which would be hardly creditable, did we not see, even to this day, 1722, their fortunate and illustrious posterity, governing with so much sagacity those same people who formerly owed their liberty to the courage and prudence of this first citizen of their republic. In fact, after this great man had, as may be said, given the jog to the wheel of fortune which was to raise his house so high, there were but very few dignities, honours, titles, or alliances by which the family were not illustrated; and in less than an age it gave four sovereign Pontiffs to the Church, two Queens to France, and to the Sacred College more celebrated subjects than any other house, even sovereign ones, had given to it until then.

It was, nevertheless, commerce only, that was the source of so much renown. The ancestors of Cosmo, following the custom of the nobility of Italy, had not any way neglected this resource to support them in the honours either of the camp or cabinet; but he, more fortunate or more intelligent, had made so large a fortune that he became even comparable to sovereigns for his riches, and he was always courted and regarded on account of the great credit which he preserved all his life in the affairs of Italy.

Lawrence, his brother, who, to the name of great, which he merited, as well as *Cosmo*, added that of father of letters, was so well known at the Porte, on account of the factors, which he maintained in all parts of the Levant, and of the great number of ships which he sent, that Bajazet, the fierce Ottoman Emperor, not only always regarded him as one of his allies, but even honoured him with the name of his friend.

All the other Medicis' who came after these two great men, and were, as they, elevated to the chief honours of their republic, had the wise policy to imitate them, and in no manner to deprive themselves, by the false delicacy of the utility of their trade; and when, in fine, the great qualities and merit of another Cosmo had raised his house to the sovereignty of Florence, neither he nor his successors thought it any way unworthy of them to seek, in an honourable marine trade, wherewithal to support with greater credit the splendour of the rank which in some sort was owing to it; and to this very day the palaces of the Grand Duke are neither shut to tradesmen or merchants, and it is not in the least surprising to see his ships arrive convoying those of his subjects loaded with rich merchandize, from the Levant and other places where the merchants of Liverno and Florence carry on so considerable a trade.*

3. **Roscoe.**—This eminent man in all the extensive movements of trade, its perplexities and distractions, found yet the inclination and the leisure to cultivate all that was beautiful and noble in literature. The fame he has won can never be lost in the world while such monuments of it exists as the "*Life of Lorenzo de Medicis*" and "*Leo the Tenth.*" He was a partner in the Liverpool commercial house of Clark & Co., in the conduct of which his services were almost inappreciable. During this period he mourns bitterly to his friend, Dr. Parr:

"Must I open hereafter no books but journals and legers, and breathe no air but that of the town. Happily for me this is by no means the case; and though from the peculiar state of the business when I engaged in it, it has hitherto required my unremitting attention, yet I already see the probability, at no great distance of time, I may again enjoy some portion of those pleasures to which I supposed I had paid a last farewell. The daily routine of my business engagements does not appear so irksome as I had reason to expect."

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* We have adopted altogether the language of Beawes in our allusion to this family. The house became extinct at last by the death of Gaston, the last Grand Duke of Florence, to whom the Duke of Lorrain succeeded, 1760.

In a letter to Lord Lansdowne, he says, "I have reason to flatter myself that in a very short while so close an attendance may be unnecessary, and that I may be enabled to devote some portion of my time to other pursuits."

In this fond wish he was soon gratified for a short period, and having received various valuable manuscripts from Florence, he set about the "*Life of Leo,*" devoting the long winter evenings to it, after returning from the cares of business at the house in Liverpool.

Not long after this the partnership became involved in some of the difficulties so incident to the empire of trade, and it was found necessary to go into liquidation. At the request of all parties Mr. Roscoe again betook himself to the management of its affairs, being entrusted with the sole direction. During these distresses he was forced to yield up his effects, amongst the rest his costly and elegant library. In this matter he could not hesitate, as an honourable man, but in the sadness of his heart at such a privation his noble spirit breathed out its plaints in secret. The following lines written by him at the time, touchingly show this, and in introducing them we shall conclude the first number of our sketch:

"As one who destined from his friends to part,
Regrets his loss yet hopes again erewhile,
To share their converse and enjoy their smile,
And tempers as he may afflictions dart:—
Thus loved associates! chiefs of elder art!
Teachers of wisdom! who could once beguile
My tedious hours and lighten every toil!
I now resign you; nor with fainting heart—
For pass a few short years, or days, or hours,
And happier seasons may their dawn unfold,
And all your sacred fellowship restore.
When freed from earth, unlimited its powers,
Mind shall with mind direct communion hold,
And kindred spirits meet to part no more."

Art. VIII.—RAILWAY SYSTEMS AND PROJECTS IN EUROPE AND AMERICA.

The revolution occasioned in the world by the application to purposes of land communication of the wondrous element of steam, has been equalled by no other which history records. Morally, socially, politically, and physically, society and man have received an impetus by it which have moved them distant, in a single generation, beyond the limits enthusiasm itself might have assigned for a century of progress. It has diminished labour, destroyed space, lengthened time, and created a new world. It has done this,—but it has done nothing when we regard the contingent and the possible. Imagination and reason are baffled in their attempts to foresee all the consequences of an era ushered in upon us, and having as its active agents the all-powerful elements of coal and iron:

"The tract of ground" says Dr. Lardner "crossed by the Liverpool and Manchester railway, on which thousands of travellers are now daily transported at a speed varying from twenty-five to fifty miles an hour, just seventy-five years ago was travelled by Arthur Young, who has left us the following description of it: 'I know not in the whole range of language terms sufficiently expressive to describe this infernal road. Let me most seriously caution all travellers who may accidentally propose to travel this terrible country, to avoid it as they would the devil; for a thousand to one they break their necks or their limbs by overthrows or breakings-down. They will here meet with ruts, which I actually measured, four feet deep, and floating with mud only from a wet summer. What, therefore, must it be after a winter? The only mending it receives is tumbling in some loose stones, which serve no other purpose than jolting a carriage in the most intolerable manner. These are not merely opinions, but facts; for I actually passed three carts broken down in these eighteen miles of execrable memory.'"

This celebrated road was opened in 1830, and Mr. Stephenson was smiled at for his folly, in hinting that twelve miles an hour might be attained on this road, with a loaded car! The speed a few years after, fell a little short of thirty. In 1840 there were thirteen hundred miles of English railways; in 1841, fifteen hundred; in 1845, twenty-four hundred; and eighteen hundred miles in 1845, and four thousand miles in 1846 additional chartered, requiring to construct, £200,000,000. The average cost of these roads, including land, machinery, &c., is over £35,000 per mile. The average fare on them, according to the different classes of accommodation, varied in 1845 from one shilling to two shillings and sixpence per mile; dividends five to ten per cent. The amount of service done in 1845 was equivalent to carrying five hundred million of persons one mile; or the work of fifty thousand stage horses.*

The first railroad constructions in Belgium were authorized in 1834. The whole amount in miles worked there in 1844, was three hundred and forty-eight, having cost per mile £16,600. The rate per mile for passage varying from a half-penny to near one penny only.

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* For these and many other facts in the present Essay, we are indebted to an article in the last number of the Edinburgh Review, ascribed to Dr. Lardner.

In France, though several short roads had been previously constructed, the first great movement made was in 1842 by the government planning a system of roads radiating from Paris; the first to the Belgian line, with branches to Calais, for opening an expeditious route to England; a second line southward towards Spain; a third to Brest; a fourth to the Pyrennees; a fifth to Havre, &c., &c. In 1844, the number of miles in operation was five hundred and thirty-seven; in progress, eighteen hundred and thirty-seven; planned nine hundred and sixty-one; cost per mile, £21,000. At the end of 1846 the total length of working roads in France reached about one thousand miles. Passage per mile, from one to two-pence.

The German States have also been in motion, and according to Dr. Lardner they will ere long be overspread by one of the most magnificent systems of interior communication of which Europe can afford any example.

The following table exhibits the results of the railroad revolution in the Austrian dominions:

	Total length.	Complete and open for commerce.
	miles.	miles.
Vienna to Trieste, (finished to Gratz,) - - -	335	148
Northern Line; - - - - - - - - -	497	190
Vienna to frontier of Bavaria, - - - - -	194	16
Eastern Line, - - - - - - - - -	311	84
Venice to Milan, - - - - - - - -	190	19
Vienna to Tirnan, by Presburg, - - - - -	51	51
Grunden to Prague by Lintz and Budweis, - -	286	156
Budweis to Prague, - - - - - - -	71	—
Total, - - - - - - - - - -	1935	664

In Prussia, the length of the roads in progress is considerably over a thousand miles; and in operation about seven hundred, having cost £9,400 per mile.

The whole system of Germanic roads in construction, throughout all the States, is estimated in length at seven thousand six hundred miles, of which at the close of 1845, four thousand seven hundred and sixty miles were in operation. Cost per mile, £8,000.

The Czar of Russia has projected several great lines; one from St. Petersburg to Warsaw and Cracow, thus opening his dominions upon southern Europe; a second route extends to Moscow; a third to Odessa; a fourth to connect the Volga and Duna; and the whole to be in length sixteen hundred miles.

Denmark, Holland and Switzerland have entered upon similar enterprises; Portugal and Italy have done little; Spain only in her Cuba road; and Sweden nothing at all.

In the United States,—but before proceeding to this pregnant field of investigation, let us introduce a few observations upon the relative velocity and safety of railroad communication. We rely again upon the authority of the Edinburgh Review.

In the four years preceding 1839 the number of passengers on the Belgian roads was over six and a half millions; the number of persons killed 15; number of wounded 16,—only five of whom were passengers. In 1842 the number of passengers was 2,716,000, three only killed, one a suicide and the other crossing the track. In the first six months of 1843, 1,889,718 passengers were carried 316,945 miles over French lines *without the injury of a single* one! During the year 1844, in Paris alone, there were killed by horse coaches 74 persons, and 2,073 wounded. In England, the proportion of persons injured to those carried upon railroads, was in 1840, 1 in 39,000; in 1841, 1 in 213,000; in 1842, 1 in 1,124,000; in 1843, 1 in 4,262,087; in 1844, 1 in 356,700; in 1845, 1 in 522,000.

The average speed of travelling on the English passenger railways is much greater in England than in the United States, as will appear from the following table:

Name of Railway.	*Distance.*	*Time.*	*Rate per hour.*
GREAT WESTERN.			
Paddington to Didcot,	53	1h. 7m.	47 5 miles.
Didcot to Swindon,	24	35	41 stoppage.
Swindon to Bath,	29	37	48 2 no stop.
Bath to Bristol,	11.5	20	34 5 stoppage.
Bristol to Daunton,	44.75	58	46 3 "
Daunton to Exeter,	30.75	47	39 2 "

The velocity of sixty miles per hour has frequently been attained, and it is within the reach of probability, and indeed not contradicted by any of the conditions of science, that one hundred and even two hundred miles per hour may be ultimately realized.

"The ordinary speed in the United States," says Dr. Lardner, "stoppages included, is fourteen or fifteen miles an hour. Independently of other considerations, the light structure of most of the railways would not allow of a greater velocity without considerable danger: on some of the better constructed lines, we have, however, frequently travelled at the rate of twenty-five miles an hour. when at full speed. This is not uncommon on some of the New England lines,—on the railways from Baltimore to Washington, and some of the southern lines; as for example that between Charleston and Augusta, in Georgia, the Columbia line in South Carolina, and the line from Augusta to the University of Athens, in Georgia."

The first railroad constructed in the United States was completed in 1825. "On the first of January 1829" says the American Railroad Journal "there was not a railroad in operation upon which locomotive engines were successfully used as the propelling power,—and it was not until October, 1829, that this power was brought to anything like a successful application; and even then *twenty tons* on a *level* road at *ten* miles an hour, was the extent of the requirements of those who were in advance of the age in such matters! And even this degree of confidence in their power was confined to a very few persons in England; while in all Europe beside, and, with here and there an exception, in *this* country, they were as little thought of as the *Magnetic Telegraph* in 1840! and yet, at this date, a locomotive, even of America manufacture, which will haul from a *thousand* to *twelve hundred* tons on a level road, at the same speed, is no uncommon machine!!!" On the first of January, 1835, the roads completed or in progress, reached sixteen hundred miles, at a cost of $30,000,000, and the average cost per mile has vared to this day from eight to forty thousand dollars. We extract the following passages from the essay by Dr. Lardner, who, it will be remembered, travelled very generally in our country a few years ago, on a scientific and very profitable tour:

"The total length of railway now actually constructed and in operation in the United States, amounts to about 4,500 miles, of which 500 miles consist of short lines, connected with coal works and private establishments;—leaving about 4,000 miles of swift steam conveyance, by railway, for passengers and merchandize. Besides this, there are about 10,000 miles projected, the construction of most of which has been suspended, since the financial and monetary revolutions which took place some years since. Of the railways completed and in operation, the chief part are in the Atlantic States. A few short lines, however, have been constructed in the south and west. Thus there are seven railways in Alabama, four in Florida, ten in Louisiana and five in Mississippi.

"Pennsylvania, New York, and the States of New England, are the great theatres of American railway enterprise. The State of Pennsylvania is intersected by nearly a thousand miles of railway, and an equal length is in operation, or process of construction, in the State of New York. The New England States are in every direction intersected by railways. Boston is connected towards the west with the Hudson, at Albany, by a continuous line. It is connected, towards the south with Long Island Sound, by lines to Providence and Stonington, and to Worcester and New London. The communication is carried on from these points to New York, both by railway over Long Island and by steamboats on the Sound and the East River.

"From the Hudson, there is an unbroken line of railway communication to the great northern lakes. By these and the Illinois river, the communication is continued by steamboats nearly to the banks of the Upper Mississippi, where it is continued for some thousand miles westward by the Missouri towards the Rocky Mountains; and southward by the Lower Mississippi to New Orleans and the Gulf of Mexico.

"Another artery of railway communication proceeds from New York southwards—traversing the States of New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North and South Carolina,—and turning westward through Georgia, terminates near the banks of the Alabama river; there the line is continued by steamboats to the north of that river, and thence to Lake Pontchartrain, where it meets a line of railway which terminates finally at New Orleans. The entire territory of the Union is thus enclosed in an uninterrupted circle of steam communication.

"Nor are great transverse arteries wanting to complete the interfusion of the commerce of the country. From the artery running north and south just mentioned, there issues a lateral branch at Baltimore, proceeding westward towards the Alleghany range. At present this is continued only as far as Cumberland—at the foot of the ridge which is from that point crossed by an excellent Macadamized road, on which stage coaches work at a speed equal to the best English coach travelling. It is, however, intended to supersede this road by a continuation of the railway to Wheeling and Pittsburg on the Ohio. Thence the communication is carried on by steamboats on that river, to the point where its waters are received by the Mississippi.

"We have here traced the great main arteries of the internal commerce of the United States, but these only. From these at every other point diverge innumerable ramifications, either by tributary navigable rivers, by branch railways, or by common roads.

"There are also isolated instances of the irrepressible spirit of enterprise, which so strongly characterizes this people, to be bound in railways constructed and in operation, where the highest refinements of locomotion would be the last thing the wanderer of the wilds would expect to meet. In the backwoods of Mississippi, traversing native forests where, till within a few years, human foot never trod, through solitudes the silence of which never was disturbed, even by the Red man, we are now transported on railways. The impression produced on the traveller as he is whirled through these wilds, and sees the frightened deer start from its lair at the snorting of the ponderous machine which moves him, and reflects on all that man has accomplished in these regions within half a century, cannot be described."

In the space to which we are restricted in this article, it will be impossible to remark, as we would wish, upon each of the individual branches that make up the great system of American railways. The interior and the sea coast are made as one by them, and we regard as little the two thousand miles that separate Texas from Canada, as our grandfathers did the journey to market town, or county court.

We have searched in vain for a complete list, to date, of all the railroad works in operation, in construction, and in contemplation among us. It has, however, been promised by the New York Railroad Journal, and will, perhaps, be in time for our next number.

There are, yet, some observations which we should like to make now, in relation to the efforts in progress, to connect the south and the west together; and the west, again with that almost *terra incognita* which sweeps to the base of the Rocky Mountains, on bothsides, from the Mississippi river and from the Pacific.

As early as 1828, Mr. Elliott, of South Carolina, when discussing the various projects of canal communication between the valley and the northern sea board, used in the old Quarterly Review, this remarkable and almost prophetic language:

"While this project, the New York canal, has been pressed upon the public attention by the united exertions of great talents, a lofty public spirit, strong private interests and ardent zeal; while it has been supposed that the commerce of the west in its mighty efforts to reach the shores of the Atlantic, would ascend the opposing current of the Ohio, perhaps also of the Monongahela, traverse the summits of the Alleghany and the parallel chains of contiguous mountains, expose itself to the delays of three hundred and ninety-eight locks, and the possible, if not probable want of water in the summit levels, rejoicing still in such an access to an Atlantic market; other routes, far more direct and practicable, have been overlooked, because they are situated some degrees farther to the south, and, perhaps, because they would lead this commerce into channels, that those who influence the arrangements of the government, did not wish that it should pursue.

"Let us take one instance only, as an illustration. From the mouth of the Tennessee river to Florence, just below the Muscle Shoals, where the steamboat navigation now terminates, the ascending voyage consumes from two to three days. From the junction of the Ohio and Mississippi to the mouth of the Tennessee, scarcely one. From Florence, a railroad of three hundred and forty miles, without having to encounter any interposing mountains, or cross any fordable streams, will reach Augusta. From Augusta, Savannah is distant one hundred and twenty, Charleston one hundred and forty miles. Thus, then, the products of the western country, whether descending the White river or the mighty stream of the Missouri, whether floating along the current of the Mississippi or its tributary branches, many of them noble rivers, and like the Illinois, flowing through territories of exuberant and inexhaustible fertility; whether descending along the stream of the Ohio itself, or any of its secondary waters, will only have to pause in their descending progress, turn against the current of the Tennessee for two or three days, and then in forty or sixty hours, according to the rate at which carriages shall be made to travel, may be placed in Augusta, on navigable water flowing into the Atlantic, or in another day, on continued railroads, may be delivered in Charleston or Savannah, in Atlantic ports possessing every advantage that mercantile enterprize may require. Six days, therefore, of uninterrupted travelling may take produce from the confluence of the Ohio and Mississippi to the shores of the Atlantic; in five days a return cargo may be delivered at the same point. It appears to us, that no one position on the Atlantic shore of the United States offers equal advantages to the commerce of the western country,—to that commerce we mean which will embrace, and is connected with, all the waters of the Mississippi and its branches, to the north of the Arkansas."*

Georgia and South Carolina are both struggling to realize this vision, and to bring to Savannah and Charleston all the advantages which a connection with the great West must afford. The latter State is moving in one direction towards her mounains, and the produce of Tennessee and Kentucky, which may be there attracted and brought through Columbia to the sea-board; and the two States, by different lines, and in co-operation, are directing their efforts towards Memphis, Nashville, and the mouth of the Ohio. One of the objects of the great Memphis convention was the discussion of these routes, and in his able report Col. Gadsden made this lucid explanation:

"The main track of road from the sea-board, passes along its whole line, through a mild parallel of latitude, not interrupted by the floods of spring, or by the ice and snows of winter. With the projected branches, it intersects the cotton growing regions of Georgia, Alabama, Tennessee and Mississippi. It demonstrates, in one direction, on East Tennessee, the Switzerland of America, and on the western valley of Virginia, beckoning to the Ancient Dominion to participate in the enterprise, and on many interior districts, rich in agricultural and mineral resources, but so secluded from all avenues of communication with markets, as to remain undeveloped.

"These roads locate their own highways of interior trade, as they

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* From the confluence of the Ohio and Mississippi, the distance (calculated from one of Tanner's maps) to different points on the sea-coast, is as follows:

To Savannah,	525 miles.
Charleston,	551
Richmond,	596
Washington,	660
Baltimore,	687
Philadelphia,	780

The route from Florence to Augusta would pass some distance south of the termination of the Alleghany mountains, and cross the Coosa, Talapoosa, and Chatahouchie, while they are yet near their sources. It would run through a fertile, healthy, and, where not occupied by the Indians, a populous country. All other routes to the Atlantic coast, excepting one further to the south, would cross many ridges of mountains, where roads could only be opened at great expense. In times of peace, this outlet to the western commerce may be considered as comparatively unimportant, the great bulk of it will undoubtedly float along its natural and noble channel. But in war, when the mouth of a single river, nay, even the Gulf of Mexico itself, can be easily closed by a naval power, such an access to the Atlantic coast may become of immense value.

originate the business that sustains them, and at the various *termini* proposed, they bring into intimate connection the ancient cities of Charleston and Augusta, with the modern cities of Macon, Knoxville, and Nashville, and perhaps in the event, Mobile and New Orleans, with Natchez, Grand Gulf, Vicksburg, and the modern Memphis of the American Nile; a new city, but so imposing in its midway position and its commercial relations as already to number 10,000 inhabitants, and so accessible to steamers as to have attracted the attention of the general government as a suitable site for a naval depot."*

The city of Mobile has lately evinced a strong disposition to partake of those advantages which her neighbors enjoy or have in prospect, and thus receive an impetus in her prosperity, which has of late appeared to be at a stand; or at that critical point which immediately precedes a decline. A large meeting of the citizens was held and committees appointed to report upon the practicability of a route from the city, through the heart of the cotton regions of Mississippi and West Tennessee to the mouth of the Ohio river. The country is rich in every section and of a surface admirably adapted to railroad communication. Scarce one single impediment of an important nature presents itself. The distance is estimated at four hundred miles, and the cost between five and six millions of dollars. Whether this amount, which is regarded as necessary for the salvation of Mobile can be obtained, we have not the necessary information to decide. The work, however, would be a grand one, and worthy the enterprise of any people.

In Louisiana there are several railroads in contemplation and in construction. The Mexican Gulf must be regarded as of the most importance, and it is likely that the connexion with the harbor at Cat Island will be completed before long. The reader will see some particulars of this enterprise, on the 108th page of the present number of the Review, and in a late article in the *London Times* from which we make this extract:

"The object of this improvement is to avoid crossing the bar at the mouth of the river, the Balize, and also to avoid a tedious and winding voyage of ninety miles from Balize to New Orleans, by forming a railway from the city of New Orleans to Cat Island Harbor, a fine, well sheltered anchorage, which has recently been discovered at the entrance of Lake Borgne, forty-six miles east of New Orleans. There is depth of water in this harbor for ships of war to victual and refit; for steamers of the size of those of the West India line to enter at all times; and for large merchant vessels to take in full cargoes of grain and other heavy goods, none of which things are practical at the present harbor of New Orleans.

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* See Commercial Review for January 1846.

The greatest advantage of this plan probably is, that it will render it possible to extend all the advantages of the safe and rapid mode of communication between England and America, furnished by the West India mail steamers to the whole Valley of the Mississippi, as well as to Mobile and other parts of the cotton-growing States in the Gulf of Mexico. At present these vast regions furnish 1,000,000 bales of cotton every year, at a very moderate computation, worth £5,000,000 sterling, and they are likely in future to supply us with grain, flour, provisions, and tobacco, to a still greater extent. This immense trade is every year creating an increase in the personal and epistolatory communication between England and New Orleans, and there can be no doubt that it would be much facilitated and greatly increased, if the West Indian steamers could proceed to New Orleans. At present this is impossible, as they draw too much water to cross the bar, and are, therefore, unable to approach nearer than 110 miles of the city, to a point without a harbor or a road to New Orleans. They have, in consequence, given up calling at that point, after attempting twice, and thus the people in the great valley of the West are deprived of the advantages of this cheap and rapid route to Europe, and the company is deprived of the profit of carrying them. When the railroad is completed to Cat Island Harbor, the steamers will be able to approach within a couple of hours' ride of New Orleans, and ten hours' sail of Mobile, and to lie there in a well-sheltered harbour, in deep water."

A railroad was projected several years ago in Louisiana from Point Coupeé to Opelousas. The subject has been lately revived and we cannot question that the enterprise would be found most profitable to the State. Another route was projected in 1837 from the Mississippi to Alexandria, a paper upon which, lately prepared by Professor Forshey, shows that the route would be from Vidalia, opposite Natchez to the mouth of the Tensas river 26 miles, thence from Trinity the opposite side of that river, on to Alexandria, 55 miles more, and having crossed the Red River onward perhaps to Bayou Cotile, 20 miles; whole distance 101 miles, estimated to cost $857,250.* From Bayou Cotile the distance to the Sabine is but 54 miles. If it were found desirable, as there is little question that it will, ere long, in the progress of our institutions, and in the increasing wealth and prosperity of our Southwestern regions, this road would have an easy and practicable extension to the Rio Grande, thus reaching the extremest limit claimed for the territory of our country in that direction. From Natchez to the Rio Grande the distance does not exceed 620 miles. Such an enterprise suggests the still further and more glittering prize of *a Southern communication through California to the Pacific Ocean*, the distance from the Rio Grand to Mazatlan, at the mouth of the Gulf of California, being only about 450 miles! We regard this last as infinitely more practical, desirble and within the reach of our country, than that proposed by Mr. Whitney, from Lake Michigan, through cold and mountains, 2600 miles to the mouth of the Columbia River.*

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* See Commercial Review, March, 1846.

But as we here trench upon the limits of a question so vast, and as we have collected we see by reference to our papers, a large quantity of material, some of the most valuable kind, for an article, we have deemed it best not to extend this too much, but to postpone as a whole for some other number of the Review, the connection of the Atlantic and the Pacific Oceans, and the centralization of the trade of both in the North American States.

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* E. H. Derby, Esq., in the November number of the Rail Road Journal, has contributed a valuable paper upon this route, from which we would extract the following:

"A superior route from the Atlantic to the Pacific, follows as near as may be, the tropic of Cancer across the continent. This line protracted, sweeps by the southern capes of the two great peninsulas, Florida and California, and crosses the American continent at a point where it is less than 480 miles in width; a distance just adequate to surmount the table land by a railroad with moderate grades.

"The tropic of Cancer passes nearly over the Havana, strikes the coast of Mexico a little to the north of Tampico, crosses the northern provinces between Zacatecas, Chihuahua, thence nearly over Mazatlan, a sea port on the Pacific much resorted to by our ships of war, thence passes over the Sandwich Islands, the great resort of our whale ships, and proceeding westward between Manilla and the Japan islands, strikes China close to its principal entrepot, the great city of Canton. The route would be nearly direct from *New Orleans* to *Canton*.

"Assuming that the length of a railroad would exceed the air line twenty-five per cent. the whole length of the proposed line would not exceed 600 miles; and assuming the same cost per mile allowed for Whitney's road, or $30,000, the entire cost would not exceed $18,000,000, or less than one-fifth the cost of the Whitney railroad.

"The charge for freight at the rate conceded to the Whitney railroad, would be $9 per ton. Assuming an average freight from New Orleans to the eastern terminus of $2 50 per ton, and a freight of $16 per ton from Mazatlan to Canton, and we have an aggregate freight of $27 50 per ton from New Orleans to Canton in place of $60 by the Whitney road, from the Atlantic coast to Canton. The average freight between New Orleans and Europe does not materially vary from $10 per ton; outward it is more, and inward materially less, as ships often return in ballast. If we add this to the $27 50, we have an aggregate of $37 50 between China and Europe.

"At this rate a large portion of the trade between Europe and China, California, Oregon and Peru, induced by the saving of time and insurance, must eventually take this course, while the major part of the commerce between the United States, the British Provinces, West Indies, and South America on the one side, and China, Manilla, Chili, Peru, California, and Oregon must fall into this channel.—By the route proposed, a passenger taking steam at New Orleans, may in four days reach Tampico or New Santander, in two more Mazatlan and by steam packets, Canton in thirty-four more, in all forty days. Starting from St. Louis, the future centre of the west, four days carries him to New Orleans. And before the proposed line can be finished the completion of a chain of railroads must bring Boston the gateway to Europe, within five and perhaps four days to New Orleans.

"From Mazatlan to San Francisco a line of steam packets may convey a passenger in five days, so that the weary emigrant, who is now from May to October, on his journey to California, may in fifteen days from St. Louis, reach the land of promise.

"Another effect of the line would be an easy access to Chihuahua and Zacatecas, reputed to be the richest mining districts of Mexico and open an inlet for our manufactures into the heart of Mexico itself, by the great inland road, along the table land from Monterey to Mexico, a connection which would doubtless, repay us for all the expenses of the present war.

"Another advantage, common however, to both lines would be secured. American ships now excluded from the direct trade between China and most countries in Europe, could transport goods between China and the western terminus of the railroad, and thus command a vast freighting business.

"The route suggested might commence either at Tampico, Santander, or Brazos Santiago, as the face of the country should prove most inviting, or the greatest facilities exist for forming a good harbor, and in case the country south of Chihuahua should in the settlement with Mexico, be released to that country, a route a little longer, but possessing most of the advantages of that proposed, might be opened from Corpus Christi or Aransas to Guyamas one of the most eligible ports on the Pacific.

"In addition to this, if the railroad of Mr. Whitney can be built with the proceeds from the contiguous land, the territory on the borders of this route may be made to contribute to the cost without impairing the fund flowing from our public sales."

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Art. IX.—THE POST SYSTEM.*

Our government furnishes very few blessings like our MAILS. They bear from the centre of the republic to the distant extremes, the acts of our legislative bodies, the decisions of the judiciary and the orders of the executive. They are charged with the letters of relatives and friends, preserving a communion of heart between those far separated, and the indulgence of the most pure and refined pleasures of our existence—of commercial men, stating the condition of the markets, preventing ruinous and gambling speculations, and promoting general as well as individual interests; they convey innumerable religious letters, newspapers, magazines and tracts, which reach almost every house throughout this wide republic.—REPORT OF RICHARD M. JOHNSON ON THE TRANSPORTATION OF THE MAILS, 1830.

The POST OFFICE is properly a mercantile project. The government advances the expense of establishing the different offices and of buying or hiring the necessary horses or carriages, and is repaid with a large profit by the duties upon what is carried.—SMITH'S WEALTH OF NATIONS.

The institution of Posts is one which appeals to us with the force of necessity. By its extent and character, we can in a certain degree measure the commerce of a nation and assure ourselves of its literary taste and proficiencies. The intercourse of friendship is accelerated by its action, and kindred spirits are brought measurably in near connexion with each other.

Time, that effects more revolutions in a day, than have all the conquerors who played their parts with various success upon the theatre of human action, from the Great Alexander, sighing in the intolerant vanity of his heart for new worlds to conquer, down to that "throneless homicide" who drenched the earth with human blood, has not left unmarked upon this establishment the determined impress of his touch. System has succeeded to system, and in the progressive ingenuity of one age there was the warrant of a principle of improvement transmitted in active force to another. Thus has the world in this, as in all other things, attained to the position it now occupies.

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* Macpherson's Annals of Commerce.
Rees' Cyclopædia, Vol. 29.
Encyclopædia Americana, Vol. 10.
Ellis' Laws and Regulations of the Customs.
Report of Geo. Plitt, special agent of the P. O. Department.

The name of Posts is said to be derived from the Latin *positus*, as horses were placed at certain distances with the view of transmiting letters or travellers. It is a presumption among the learned, that the first Posts were established in the Persian Empire. Darius I, son of Hystaspes, caused couriers to stand ready with saddled horses at different stations throughout the Empire in order that he might receive reports from the provinces without delay. The distances by which they were separated were about one day's journey.

One of the most important steps taken by Cyrus when he had subjugated the kingdom of Babylon, was to create an establishment similar to our modern Posts by which the most speedy intelligence was conveyed throughout the whole extent of his vast Empire. Between Sardis, the capital of Lydia, and Lusa, the residence of the Persian King, there are computed to have been one hundred and eleven houses. The distance of the road has been estimated at 13,400 Greek stadia, nearly equal to 1340 geographical miles. From the errors of transcribers, however, as appears from a note to Macpherson, there is some apparent disagreement upon this point, and commentators have consequently been much puzzled in reconciling the remote distances by which the houses were separated. We may regard the inference which has resulted, that some of the stages are evidently omitted, as a legitimate one, though we may not conceive fully the advantages resulting from the fact as conducing to any very important end.

Italy appears to have been the cradle of the system of Posts. Constituted principally with the view of obtaining intelligence from the army, under the Emperor Augustus it was in the most flourishing condition, and the couriers employed were remarkable for their extraordinary swiftness. Despatches from Sclavonia were received by Augustus in four days, and Tiberius is said to have indignantly thrown away all despatches that were more than twenty days from Asia, fifteen from Europe, ten from Africa, five from Sclavonia, and three from any part of Italy. Such was the expedition to which the ancients were accustomed. The privacy of letters was so much respected, that the breaking of a seal was, by the criminal code of Milan, punished with death.

During the ninth century, messengers who traveled on horseback existed in Germany, France and Italy, devoted exclusively to the government service. The establishment, however, seems to have been of but short duration.

In the East carrier pigeons are used. They became known in Europe through the Crusaders, but seem never to have been introduced to any extent in more recent years. The carrier pigeon is a native of the East. An actual Post system, says Leiber, was established by the Sultan Mouredden Mahmood, who died in 1174, in which pigeons were the messengers. It was extended and improved by the Caliph Ahmed Abraser-Lidiv-Allah of Bagdad, who died in 1225. When that city fell into the hands of the Mongols in 1258, this flying post was destroyed by them. The manner of using them is by placing a particular kind of silk paper, called *bird paper*, lengthwise under one wing, and fastened with a pin to a feather, the point of the pin being turned from the body. They have been known to accomplish a distance of upwards of one thousand parasangs, more than 2700 English miles in a day. According to the elder Pliny, Decius Brutus sent despatches from Modena by pigeons. They were in much later times employed by the merchants of Paris and Amsterdam to convey the course of Exchange and the prices of stocks from one city to the other. And in our day, the velocity of their movements have much anticipated those of the steam engine.

Part of the Post system of the Great Mogul is conducted by means of pigeons. They are kept in several places for the conveyance of letters on extraordinary occasions, and they carry them from one end of that immense Empire to another. The Dutch within Seizes have resorted to the same vehicles. The Consul at Alexandretta is said by Tavernier to have been accustomed to send news daily to Aleppo in five hours time by means of pigeons, though these two places are three days journey apart on horse back.

Pedestrian messengers were maintained by the University of Paris in the beginning of the thirteenth century, who, at certain times, took charge of money and letters for the students, collected in that city from almost all parts of Europe.

Posts, upon the authority of Lewis Hornick, were first settled in Germany by the Count de Taxis, at his own expense, in acknowledgment of which the Emperor Mathias in 1616 gave him in fief, the charge of Postmaster under him and his successors. This point, however, is not very clearly established.

In 1295, throughout Cambula in the province of Carthay, two days journey from the ocean, inns were established at proper distances, where horses, provisions and lodging were kept for the Khan's ambassadors and messengers, and ferry boats were stationed also at the rivers and lakes. By these means letters were conveyed at the rate of from 200 to 250 miles in a day.

On the road from Cusco to Quito messengers were found placed at short distances from each other, when the Spaniards discovered Peru in 1527. The orders of the Inca were transmitted by them with remarkable speed.

About 1740 the Turks commenced the establishment of Posts after the manner of Christendom, throughout their entire dominions. It was generally expected that they would operate very advantageously to their commerce, independent of the large addition which would be made to the Sultan's revenue, which, in consequence of the late wars with Russia, had become greatly impaired. We see very clearly, therefore, that in an age far removed from the one in which we live, the benefits to be derived from this system judiciously administered had forcibly impressed themselves upon the minds of all people of all nations. Indeed, it is difficult to conceive a state of society in which an approach to civilization and refinement will not originate an establishment like this. Mr. Ellis, in his "Polynesian Researches," says, that though the natives of the Sandwich Islands have not so far advanced in civilization as to have a regular Post, a native seldom makes a journey across the Island, and scarcely a canoe passes from one Island to another without conveying a number of letters.

The system of Posts in England has attained to a very great perfection, and it is remarkable to observe the many changes through which it has passed from its infancy, so far as we have been instructed to the present time. King Edward introduced an establishment of riders with post horses, to be changed every twenty miles during the war with Scotland in 1480. By handing letters and packets from one to another, they were forwarded 200 miles in the course of two days, apparently the farthest extent of the establishment. This mode of conveyance was taken from one France had adopted a short time previously, neither of which tended to the public accommodation, or had any connection with commerce. We can only regard them, therefore, as the rudiments of an establishment, constituting as it has been well said, the most essential accommodation ever given to commerce and friendly intercourse.

It may not be uninteresting to many of our readers to trace the gradual growth and extension of this branch of the public service in a country like England where, as is clearly evident, it has been carried to as high a state of perfection as in any other country on the face of the globe. Considerations of economy have always failed to exercise the same influence with the English nation, when opposed to great national objects, to which, in our country, it seems the bent and policy of the people to give them. Republican simplicity is not at variance with grand designs, conceived for the general benefit, and tending to the establishment of a great national end.

In 1631 Wm. Frizell and others obtained a grant of the office of Postmaster for foreign parts in reversion. King James, it would appear, had previously erected this office, but previous to this appointment private undertakers only conveyed letters to and from foreign parts. Subsequently, however, it was strictly enjoined that none but the foreign Postmasters would presume to exercise any part of that office.

A running Post was established by King Charles in 1635 between London and Edinburgh, to go and come in six days, and to take all such letters as should be directed to any Post town, in or near the road. Bye-Posts were also required to be placed at different points to bring in and carry out letters from Lincoln, Hull and other places. The postage was fixed at 2*d.* the single letter, if under 80 miles, 4*d.* between 80 and 140 miles, 6*d.* if above 140 miles, and upon the borders of Scotland and in Scotland, 8*d.*, and proportionably for double letters and packets. Unless to such places as the King's Post did not go, messengers were not permitted to carry letters, except such as were common known carriers with a letter to a friend.

Notwithstanding King Charles' proclamation, letter carriers appear to have been still in use in 1637 between England and France. An agreement was formed between the heads of these two nations by which the route was made from Dover to Calais, and thence to Paris by Bologne, Abbeville and Amiens. All private Posts were prohibited, and a renewal made of the former declaration of the several rates of postage as exhibited under the year 1635.

The postage of England, Ireland and Scotland, was farmed by the Council of State to John Manley, Esq., in 1652, for £10,000 yearly. Under this settlement the rate of postage varied but slightly from that of 1635.

A new General Post Office for the Commonwealth of the three Kingdoms was erected by the Protector and his Parliament in 1656. The regulations by which it was governed were confirmed at the restoration of Charles the Second.

By act of Parliament in 1660, the rates of postage for England and Ireland were slightly modified. The revenue for the year amounted to £21,500.

In 1676, Sir William Petty, considered to have been well versed in the theory of commerce, is said to have written his political arithmetic. In his remarks upon the system of Posts, he computes the postage of letters from the year 1636 to 1676 as having increased from one to twenty. "The very postage of letters costs the people," he says, "£50,000 per annum, farmed at much less."

The penny Post was established in London and its suburbs about 1683, by a man whom history has handed down to us as an upholsterer by trade, named Murray, who afterwards assigned it to one Dockwra, who carried it on successfully for a number of years, till a claim was laid to it by the government as interfering with the General Post Office which was part of the crown revenue. Dockwra, in consequence, had a yearly pension of £200 settled on him for life.*

In 1685 the revenue of the General Post Office, estimated at £65,000 per annum, was settled by the Parliament upon James the Second, to be his private estate, and never to be accounted for by him as is the case with all public revenues.

We have noticed thus far the regular increase of the revenue derived from this source, and the farther we advance the more rapid will its growth and development be made to appear. In a printed letter to a member of Parliament concerning the debts of the nation published in 1701, the nett revenue of the Post Office for the year 1699 is said to have been £90,504 10*s*. 6*d*. It was still at this time a part of the King's private revenue.

The correspondence of Scotland was found unable at this time to support itself, and King William in consequence made a grant of the whole revenue to Sir William Sinclair, with a pension of £300 a year. Finding it to operate disadvantageously to his interest, Sir William gave up the grant. The revenue arising to the government became soon after, however, very considerable.

One General Post Office, as well as one General Postmaster, was appointed for the United Kingdom in 1711, and all former laws repealed. The chief letter offices were located at Dublin, Edinburgh, New York and the West Indies. The postage on letters was increased, and the revenue, including the penny Post, amounted to £111,461 17*s*. 10*d*.

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* A writer in Rees' Cyclopædia, Vol. 29, Art. "Post," says, "The penny Post was first set up in London in or about the year 1683 by a private undertaker, to whose assigns government allowed a yearly pension of £200 a year for life in lieu of the revenue arising from it."

Eleven years after this, from an abstract of the public debts, by Archebald Hutcheson, Esq., it appears that,

The gross amount of the P. O. annual revenue, was		£201,804 1. 8.
To be deducted for frank covers to letters,	£33,397 12. 3.	
Expense of management,	70,396 1. 5.	
		£103,793 13. 8
Nett produce for 1722,		£98,010 8. 0.

Up to this time members of Parliament and other privileged persons were accustomed to frank letters by signing their names on the corners of blank covers. To this manner of franking there seems to have been many objections, apart from its being subject to forgery. Of one fact there appears to be no doubt, that the revenues of the office were greatly injured from its operation. It was discovered, among other things, that the servants of members would solicit and receive from their masters large quantities of these franks, and would then dispose of them to persons who made a business of openly selling them in the streets. It was, therefore, enacted, that after the first of May, 1764, "no letters should be exempted from postage but such as not exceeded 2 oz. in weight, sent to any part of Great Britain or Ireland *during the session of Parliament*, or within forty days before or forty days after, any summons or prorogation of the same, *the whole* of the superscription being in the hand writing of a member of the House of Lords or Commons." The forgery of franks was, by the same act, rendered punishable by transportation for seven years.

The postage of franked letters, on an average of several years, was equal to £170,000 a year, as appeared from an examination previous to the passage of this act. Under the new regulation a great portion of this large amount was added to the revenue. The gross revenue of the Post Office this year amounted to £281,535. As we have seen, it was farmed in the year 1664 for £21,500; and twenty years earlier it was estimated at only £5,000. The increase of commerce and the increased facility and despatch in the conveyance of letters, necessarily promoted the increase of correspondence.

The rates of postage were increased in 1765 and ships bringing letters were obliged to deliver them at the Post Office. The Postmaster General was empowered to establish penny posts in any part of the kingdom he thought proper, and it was made felony to be found guilty of the embezzlement of letters, or of committing a robbery upon the mail.

In March 1784 the Irish Post Office became independent of that of Great Britain, and regulations were consequently entered into between them with regard to the conveyance of letters, newspapers, &c., and for the settlement of accounts between the two offices.

Mr. Palmer suggested an improvement in franking this year which met with much favor and was almost immediately acted upon. It was this: That Members of Parliament and others entitled to the franking privilege, should not only write the whole address, but should also place upon the back of the letter the Post Town from which the letter was sent and the date written in words with the member's name, with the view of its being charged with regular postage, if placed in the office on any other day.

The Diligences between Bath and London ran the distance about this time in seventeen hours, while the regular Post consumed about forty. The roads had been improved but with no corresponding augmentation in the speed with which the mail was conveyed. As is natural in all such cases, where there is such a difference in point of despatch, there were frequent evasions of the law, and large numbers of letters were sent by these conveyances by giving them the form of small parcels.

The first Mail Coach started from the Post Office at London for Bristol on the 2d August 1784. Mr. Palmer the Comptroller General of the Post Office, conceived the idea of forming a contract with the proprietors of coaches by which the mail should be delivered in a certain stipulated time, they being exempt from the payment of tolls on the road. By this as well as other very important improvements in the internal economy of the Post Office, the revenue was greatly increased and the public much better served.

In May 1795 the privilege of franking was further restricted. It was enacted that "no free letter should exceed one oz. weight to or from any member of either House of Parliament, all letters to be written within twenty miles of the Post Office and therein deposited on the day marked on it, or the succeeding day. No member shall send more than *ten* or receive more than *fifteen* letters free from postage on any one day."

The acts establishing the rates of postage were repealed in 1796, and the following rates were fixed for single letters carried by the Post in England and Wales:

For a distance not exceeding 15 miles,	**3 pence**
Above 15 and not exceeding 30 "	**4 "**
Above 30 and not exceeding 60 "	**5 "**

Above 60 and not exceeding 100 miles	6 pence
Above 100 and not exceeding 150 "	7 "
Above 150 miles	8 "

An addition of one penny was laid on all postages in Scotland.

Single letters by the packet to Lisbon, Do. to the British dominions in America,	One shilling.

In order that it may be seen at a glance what has been the progress and condition of this branch of the British revenue up to the period at which we have arrived, we have deemed it useful to subjoin the following retrospect, presenting as it does in a single view all that has been previously elaborated; showing the extent of the national correspondence, of which Mr. Anderson says the Post Office revenue is a politico-commercial Index.

In the yeat 1652 the revenues of the Post Offices of England, Scotland and Ireland were farmed for the annual sum of		£10,000
The postage of a single letter carried to any distance not exceeding 80 miles, was 2d. and beyond 80 miles 3d.		
In 1663 the Post Office was farmed at		21,000
In 1685 the revenue of it was estimated at		65,000
The nett produce of the Post Office revenue on an average of four years, 1707–1710, according to Mr. Astle's transcript, was		58,052
In 1711 the rates of postage were augmented from 2d. to 3d., and so in proportion,		
The nett produce on the average of four years, 1711–1714, was £88,223 for England and £2,000 for Scotland,		90,223
In 1722 the gross amount was	£201,804	
Deduct for franks, £33,398 and management, £70,396,	103,794	
The nett produce was		98,010
In the year ending 5th April 1765 the gross amount was		210,663
In the year 1764 franking was limited by Act 4, Geo. III., C. 24,		
In the year ending the 5th April 1765 the gross amount increased to		281,535
And on that ending 5th April 1775 it was further increased to		345,321.

In 1815 by Act of George III., it was permitted to owners, charterers or consignees of vessels resident in Great Britain, to receive letters free of postage, if sent by their own ships, from Ceylon, the Mauritius, or any place within the limits of the East India Company's Charter, provided they did not exceed the weight of twenty ounces by any one vessel It was provided, however, that the owners should be described as such upon the superscription of the letter so addressed. For falsely superscribing any letter, penalty £10.

By the same act no ship was allowed to report until the master had signed a declaration that all the letters on board had been delivered to some Post Master. Nor was any ship bound to the East Indies permitted to take letters on board save by special authority from the Post Master General.

A command issued from the General Post Office in June 1835 required the masters and commanders of ships on their arrival off the coast of Great Britain, to cause all letters "*to be collected and sent on shore*" by the pilot boat, ship's boat, or any safe opportunity, to be delivered at the first regular Post Office "*which could be communicated with.*" Should any packet, or letter, not exempt by law, be found in possession of the captain, in possession of any of the crew, or of any passenger on board, every such person should forfeit and pay for every such letter, the sum of £5. And this with the view of ensuring "*the landing of the whole of the letters at one and the same time.*" The time is probably not far distant when some such regulations will be found to operate favorably in our own country. There can be little doubt that a *speedy* and *impartial* delivery of letters is of extreme importance to the interests of merchants and of the public at large. Hence, doubtless, the necessity of this vigilance on the part of the English Government.

We subjoin the following with the view of showing the rates at which foreign letters were charged at this time from different portions of the world:

RATES OF POSTAGE ON FOREIGN LETTERS.

America and West Indies, 2s. 2d.—Madeira, 2s. 7d.—Gibraltar, 2s. 10d.—Malta, Majorca, Sicily and the Mediterranean, 3s. 2d.—South America, 3s. 6d.—Portugal, 2s. 6d.—France, 1s. 2d.—Holland, 1s. 4d.—Hamburg, Denmark, Norway, Sweden, Germany, Prussia, Russia, &c., 1s. 8d.—Italy, by Germany, 1s. 8d., by France, 1s. 11d.—Spain, by France, 2s. 2d.

His Majesty's Post Master General on the 20th July 1836 issued another command having special reference to France, making it optional, whether the payment of postage was made either in whole or in part, as to the frontier of France, or of leaving the whole unpaid, to be discharged by the receiver. And this applied equally to patterns of merchandize. By an express understanding and agreement, the rates were reduced both in France and England; in the latter at the rate of about 4d. on single letters, and so in proportion for double and treble letters.

English newspapers could be sent to France, under the usual restrictions, such as being in covers open at the sides, without writing and enclosures, free of charge *to the sender.* Four centimes were charged, upon their delivery in France. French newspapers were charged one-half penny upon delivery at any of the offices in the United

Kingdom and the Colonies. Unpaid letters could be sent to France, but not to such countries as it was necessary to pass through France to reach. It was required that all letters for Switzerland and Sardinia, for southern Italy, Italian frontier of Sardinia, for Austria and Venetian Lombardy must be paid in advance to the place of destination.

We subjoin a statement of the rates imposed under this arrangement as compared with those which had previously existed.

British rates upon a single letter from London for France, and countries passing through France:

	Old rate.		New rate.	
France,	1s.	2d.	0s.	10d.
Spain and Portugal,	2	2	1	7
Switzerland,	1	8	1	2
Germany,	1	8	1	4
Italy, Turkey, etc.,	1	11	1	7
Dover and Calais,	0	6	0	3

There can be no doubt that many and wonderful improvements have been made in the Post Office Department of England within the last ten years, both as regards the conveyance of mails and the reduction of rates. This will be made fully apparent, we think, when we are called to state some facts with which for the present we shall close this article, already grown beyond the proportions to which we had intended to confine it. But for one fact now: In travelling from Edinburgh to London in 1763, from sixteen to eighteen days were employed,—the distance is about 396 miles. In 1830 sixty hours was all that was required to traverse this route. In 1831, the number of Post Masters in England amounted to about six hundred. In Scotland there were about two hundred. The mail coaches travel daily upwards of 13,000 English miles, for which the contractors are paid a penny and a half per mile.

The revenue collected from this source for the year ending January 5, 1833, amounted to £2,175,291 8s. 7½d. The expenditures for the same period, including all payments, were estimated at £707,288 19s. 3¼d., clearly evidencing what has never yet existedin our country, an amount of receipts much more than double the expenses to which the establishment is subjected.

In 1840 there were 1903 employees in the London Post Office, including letter carriers and receivers. The arrangements were of such a nature that the mails left the General Post Office every day, except Sunday, and so harmonious was the action by which all its parts were regulated, that none arrived on that day. Since the 10th of January, 1840, the rate of postage has been uniform, so far at least as the weight is regarded.

A letter of more than half an ounce, is charged one penny; one ounce, two-pence, and so on adding one pennv for every additional half ounce.

The franking privilege has been entirely abolished. In view of the various restrictions which we have seen imposed upon it during the many changes through which the system has passed, this fact is not calculated to create much astonishment in the mind. Every step it has made has been an approach to this point.

Newspapers are *free*, provided they are mailed within eight days after they are printed. Foreign newspapers, however, are charged 2d. each. This may be a very equitable feature in the regulation of postage upon newspapers, inasmuch as every paper published in England pays a stamp duty cf 2d.

There is a *Money Order Office*, where all sums under two pounds are insured for a small premium. Drafts are drawn upon the office, when it is desired to remit, and notice transmitted the day previously.

Every railway in England is "*obliged by law*" to carry a mail either by day or by night, should it be desired by the Post Master General.

In 1840 the mail was carried upon nine different railways. The price per mile on the great road from London to Liverpool, is $107,50.

We have endeavoured, thus imperfectly, to sketch the outlines of a system that has exercised, and will probably continue to exercise, a wonderful influence upon the nations of the world, second only to that master discovery, the printing press. Its achievements thus far we can imperfectly trace its usefulness for the future, in this age of brilliant invention, who may pretend to divine!!

In another number we may devote a few pages to the review of this system, as connected with the regulations which govern the different Post Offices in Europe, by no means neglecting our own, the most important of all.

Art. X.—COMMERCIAL JURISPRUDENCE.

SUPREME COURT OF LOUISIANA.—IN BANKRUPTCY.

City Bank of New Orleans v. *William Houston, et. al.*

EUSTIS, C. J., delivered the opinion of the majority of the Court; **SLIDELL**, J., dissenting:

This is an hypothecary action, in which the creditor asks for a decree subjecting certain property in the possession of the defendants to the payment of his debt.

The defendants plead in substance, that they purchased the property at a judicial sale, made of a bankrupt's estate under a decree of the Bankrupt Court, with a clear certificate of the Recorder of Mortgages that the proceedings in bankruptcy were regular. and that bv reason thereof, and the discharge of the bankrupt, and by the decrees of the Bankrupt Court, the mortgage was extinguished and lawfully cancelled, and the property released from any charge or incumbrance resulting therefrom. That they were bona fide purchasers, and paid the purchase money, and that the City Bank was connusant of the sale and all the proceeding in bankruptcy, and is bound by notice and knowledge of the same.

There was judgment for the defendant, and the plaintiff has appealed.

The transcripts of the different proceedings and the other documents, have been so methodically set forth in the printed statement furnished in the brief of the counsel for the plaintiff, that it would be useless to give any further analysis of them. We proceed to give our decision on the different questions of law which this interesting case presents.

1. We do not consider that there is any thing in the conduct of the officers of the Bank, as it is before us in evidence, which would bind the Bank by the sale of the mortgaged property. They acted, on their view of the law, consistently throughout; misled no one, deceived no one. The different opinions among professional men in relation to the powers of the Bankrupt Court, are matters of notoriety, and prevented any one from acting otherwise than with caution and deliberation in the purchase of mortgaged property at bankrupt sales. It is impossible for us to overlook a fact which thus excludes the plaintiff from the operation of the salutary and equitable rule invoked by the counsel for the defendants.

2. The late Parish Court for the parish and city of New Orleans, at the instance of the assignee of the bankrupt, rendered a judgment against the Recorder of Mortgages, by which the latter was ordered to cancel the mortgage which is the subject of the present suit, and grant a certificate of no mortgage. On an appeal, this judgment was affirmed. The plaintiff was not a party to these proceedings, and is not bound by them, and the mortgage in question existing on the property at the time of the sale and afterwards,—unless released by the decree of the Bankrupt Court, or by the sale itself,—so far as the defendants are concerned, must be considered for all the purposes of this inquiry, as subsisting. The power and jurisdiction of the Bankrupt Court in this respect must be next considered.

This is a case in which the Bankrupt Court, at the instance of the assignee, without the consent of mortgagee creditor, ordered mortgaged property to be sold and the mortgage to be cancelled in the manner authorized by our laws, considering the assignee vested with the same authority as is exercised by syndics in the settlement and liquidation of insolvent estates under the *cessio bonorum*.

The argument presents two antagonist systems as the true theory of the Bankrupt Act of 1841, and we have to decide between them. One gives to the Bankrupt Court an unlimited and absolute control over all mortgages, liens, privileges, and incumbrances, on all the property surrendered by the bankrupt; the other confines its jurisdiction to the unincumbered assets belonging to the bankrupt, except in cases in which parties may voluntarily apply to the court for relief, or remedies may be sought to be imposed against them which are authorized by other special provisions of the Bankrupt Act.

The different opinions entertained by enlightened and learned men on this subject, attest its difficulty, and we are relieved by their researches, from the labour, and in some degree from the responsibility of determining the question as *res nova*, by having it in our power to adopt one of the conflicting theories under the conviction which the full discussion of the whole subject has produced on our minds.

Without drawing into question the constitutional power of Congress, under the authority, to establish an uniform system of bankruptcy throughout the United States, to vest the jurisdiction in the Bankrupt Court, which is contended for by the counsel for the defendants, it is not a little singular, that for these absolute powers contained in such a jurisdiction over the property of third persons, the exercise of which depends upon the will of any one who choses to apply for the benefit of the Act, there is no express warrant in the Act itself, nor are these powers necessary to carry it into effect.

The object of the Bankrupt Act was the discharge of debtors from their debts. Our artificial state of things was supposed to require the great remedy of *nova tabula*. This was the purpose of the Act, and there was neither reason nor policy in touching any other rights of property than those which stood in the way of this object.

The proviso contained in the second section, if it mean any thing, must mean this. It says: "That nothing in this Act contained shall be construed to destroy, annul, or *impair* any lawful rights of married women or minors, or any liens, mortgages, or other securities on property, real or personal, which may be valid by the laws of the States, respectively, and which are not inconsistent with the provisions of the second and fifth sections of this Act."

So far from the Act providing for the protection of these rights under its operation, they are expressly excluded from its benefit. All who prove their debts under the Act must show alike, with the exception of the United States; those subrogated to their rights, and certain operatives for their wages, not exceeding twenty-five dollars. The proviso of the second section is scarcely more explicit and positive than that which exempts fiduciary debts from the operation of the bankruptcy. Mr. Justice McLean in the case of Chapman *v.* Forsyth, 2 Howard, 208, in speaking of that class of debts, says: "But as the discharge operates only on debts, contracts, etc., which are provable under the Act, it is said that consent cannot include fiduciary debts. Such debts, without the assent of the creditor, are clearly not within the Act. But if his debt shall be found on the schedule, and he not only proves it but receives his proportionate share of the dividends, he is estopped from saying that it was not within the law. He is a privileged creditor, and is not bound by the bankrupt law; but he may waive his privilege. As a creditor, he has the right to come into the Bankrupt Court and claim his dividend. He does not establish his claim as a fiduciary one, but as a debt "provable within the statute." And having done this, he can never controvert the discharge.

If the mortgage creditor prove his debt under the Act, he can only receive a dividend with the other creditors. This of itself excludes the conclusion that the mortgaged property must be sold in the bankrupt proceedings.

The section 11th is coincident with and justifies this construction. It provides that the assignee shall have full authority, under the court, in bankruptcy, to redeem and discharge any mortgage or other pledge or deposit, or lien upon any property, real or personal, whether payable on *presenti* or at a future day, and to tender a due performance of the conditions thereof. By this means, the incumbrance being removed the property belongs to the creditors, and is to be divided ratably among them, but no power is given over the mortgage, pledge or lien, except to satisfy it, and thereby release the property. This is all that can be done by the court in bankruptcy.

If this be not the true construction of the Bankrupt Act, it certainly recommends itself by its extreme simplicity, by its accordance with the general tenor of the Act, and (its evident purpose and intendment) its conformity with every one of its provisions, and its opposition to none. It gives the debtor all the relief he is entitled to ask; it discharges him from his debts, personally, but leaves the rights of his creditors on property affected by his debts unimpaired. It leaves the State tribunals in the full exercise of their jurisdiction, except so far as that jurisdiction is divested by the constitutional power of the Bankrupt Court, with full and complete authority to carry into effect an uniform system of bankruptcy, and prevents that accumulation of power in the Bankrupt Court, which is to be exercised without appeal, and which we cannot believe the Act confers.

Some weight is attempted to be given to the contrary construction of the Act, from the mode of proceeding under our system of insolvency, but it has no affinity with the Bankrupt Act. The system of bankruptcy must be uniform throughout the United States. The inquiry is as to the jurisdiction conferred by the Act on the Bankrupt Court, the powers of assignees and of the Bankrupt Court must be determined by its provisions.

We find them adequate for their object, consistent, and carrying out well recognised and constitutional powers. If the assignee finds that the property of the debtor is incumbered, he is authorized to remove the incumbrance by satisfying the creditor; he can sell it *cum onere*, or he can leave the creditor to exercise his right against it at his option, but we find nothing which authorizes the Bankrupt Court, under this Act, to annul any mortgage, lien or security, reserved, as we consider, under the proviso of the second section of the Act.

It is also worthy of remark, that it is surprising that in so elaborately prepared a statute as the Bankrupt Act, no single provision is made for the mode of exercise of this jurisdiction over pledges, liens and mortgages, for which the necessity was evident. Nor can this omission be considered as an oversight, for the Act bears in every part the proofs of great care and foresight. In the eleventh section the assignee is not authorized to compound or compromise any debts, or on securities due to or belonging to the bankrupt except under the authority of the court after ten days public notice in a newspaper.

The rules of court for proceedings in bankruptcy prepared under the direction of the Supreme Court of the United States contained no provision on this important subject. Such being the view we have taken of the Act itself, it now remains to examine the authorities cited. The principal cases on which the appellees have based their argument in favour of the powers of the Bankrupt Court under which the mortgages in this case were released, are that of *Ex parte Christy*, 3, Howard's Reports, 293, and Norton's Assignee *v.* Boyd, id. 427. Those cases were decided in 1845, and were preceded by two cases decided by the late Supreme Court of this State, Clarke *v.* Rosenda, 5 Robinson's Reports, 27, and Conrad, Assignee, *v.* Prieur, Recorder of Mortgages, id. 49, which it is material to notice. The cases decided in the Supreme Court of the United States were both from the Louisiana District, and it is apparent from the argument of counsel and the opinion of the court that the decisions of our own court were not without influence in leading the learned Judges of the Supreme Court of the United States to the conclusions to which a majority of them arrived.

The Louisiana decisions maintain the extraordinary powers asserted by the Bankrupt Court to their full extent. But they were made by a bare majority of the court. Judge Martin took no part in the causes, and on both occasions Judge Bullard gave a formal and emphatic dissent to the opinions of the court, and supported his views by a thorough and elaborate examination of the subject, which we consider unanswerable as a sound exposition of the legal intendment and construction of the Bankrupt Act.

We think these decisions of the late Supreme Court of this State are founded on two capital errors. One is in taking it for granted that the Bankrupt Act is in ite administration identical with our Louisiana insolvent system, and that all the powers given by our laws to our courts for the liquidation of insolvent estates are given by the Bankrupt Act to the Bankrupt Court, which is no less than assuming the very point in dispute.

This assumption is founded on a supposed necessity which authorizes the recognition of implied powers. It is obvious that no such necessity exists, and a very slight examination of the subject will satisfy any one that the supposition is chimerical.

Another error consists in considering the mortgage, under our laws, as different from mortgages as they exist in other parts of the Union. But under the Bankrupt Act the proceedings in that Court are according to the rules and principles of equity, and equity considers mortgages as our laws consider them, simply as the security for a debt or obligation, 3 Blackstone's Com. 435. The distinction between the two is without a difference so far as relates to the action of a court of equity upon them. Code 3245, 3249.

And in relation to the supposed necessity of releasing the mortgages in order to facilitate the liquidation of the bankrupt estate, we have only to refer to the operation of the Bankrupt Act in States other than Louisiana, in which the absolute control of the Bankrupt Court over mortgages has never been asserted, nor is any such necessity supposed to exist under the English system of bankruptcy. The opinion of the Supreme Court of the United States, in Christy's case, was delivered on an application for a prohibition to the District Court of Louisiana, and it was held that the court had no authority to issue writs of prohibition except in the cases provided for by statute; that is, where the District Courts were proceeding as courts of admiralty and maritime jurisdiction. The application being in a case in bankruptcy, it was disallowed.

The doctrinal portion of this opinion supports the jurisdiction of the Bankrupt Court to the extent contended for by the counsel for the appellees, and it is affirmed in the subsequent case of Norton's Assignee *v.* Boyd et al.

The opinions in these cases do not come before us in such a form as to command an acquiescence, and to demand from us a sacrifice of conscience, and our sense of duty to authority. Being entirely aloof from those feelings which controversy rarely fails to engender even with those who are the most anxious to avoid its effects, we have not stated in detail the objections to which we think the opinion of that high tribunal is obnoxious. There is one, however, which it will not, we hope, be considered out of place if we submit.

The Supreme Court has never decided that the jurisdiction of the Bankrupt Court was exclusive of the State courts. The point was expressly and formally reviewed in Norton's case, and the general exercise of the jurisdiction of the State Courts on liens and mortgages, we think renders its lawfulness unquestionable. In order to enable the Bankrupt Court to liquidate an estate according to the doctrine in Christy's case, to class and settle the rank of the privileges and mortgages, to ascertain and give their relative position to the different liens existing under our laws, the jurisdiction must be exclusive, the power must be absolute. A conflicting authority is irreconcilable with a speedy settlement, and leads to litigation and delay which it is admitted on all hands the Bankrupt Act repudiates throughout.

The only mode by which estates can be settled within a reasonable time under that Act is by leaving it to operate upon the unincumbered assets of the bankrupt, and permitting those who have rights of property to exercise them in the ordinary tribunals as their interest or inclination may prompt them. The necessity of making the jurisdiction exclusive in order to enable the system to work out its own ends appears to us so obvious that we cannot consider that a matter of this importance would be omitted, or even left in doubt by the distinguished authors of this remarkable law. We cannot believe it was left to be implied, and that such a delegation of power, exclusive and without appeal, over the property of citizens, should be assumed or vested otherwise than openly, expressly, and in a formal manner.

So much has been before the public on this question, that anything further on our part would be merely an exhibition of what has been previously said, and it only remains to state our thorough conviction of the correctness of the views taken of it in the cases cited by Judge Bullard in his dissenting opinions, and which we adopt as an exposition of our own.

In withholding our assent to the opinion given in Christy's case, we are far from considering that we in any one single point derogate from the respect which we owe and feel for the memory of the illustrious Judge who delivered it, or for that august tribunal from which it emanated.

We are acting under the stern responsibility of duty, and under the consolation that if our views are sound they will be sustained, and if erroneous they will be corrected by the superior wisdom of those who will be called upon to decide this case in the last resort.

There is an irrational and fastidious delicacy, which shrinks from the examination of every thing which bears the semblance of authority, but following the example of that court itself, and the lights which it holds out to those who are in pursuit of truth, we have considered this important subject with great care and solicitude, and cannot refuse to the party litigant the benefit of our conscientious and deliberate convictions.

In the case of the Louisville Railroad Company *v.* Letson, 2d Howard, 554, Mr. Justice Wayne in delivering the opinion of the court, says:

"We remark, too, that the cases of Strawbridge and Curtis, the Bank and Deveaux, have never been satisfactory to the bar, and that they were not, especially the last, entirely satisfactory to the court that made them. They have been followed always most reluctantly and with dissatisfaction. By no one was the correctness of them more questioned than by the late Chief Justice who gave them. It is within the knowledge of several of us, that he repeatedly expressed regret that those decisions had been made, adding whenever the subject was mentioned, that if the point of jurisdiction was an original one, the conclusion would be different. We think we may safely assert, that a majority of the members of this court have at all times partaken of the same regret, and that whenever a case has occurred on the circuit involving the application of the case of the Bank and Deveaux, it was yielded to, because the decision had been made, and not because it was thought to be right. We have already said that the case of the Bank of Vicksburgh and Slocomb, 14 Peters, was most reluctantly given on mere authority. We are now called upon, upon the authority of those cases alone, to go further in this case than has yet been done. It has led to a review of the principles of all the cases. We cannot follow further, and upon our maturest deliberation we do not think that the cases relied upon for a doctrine contrary to that which this court will here announce, are sustained by a sound and comprehensive course of professional reasoning. Fortunately, a departure from them involved no change in a rule of property. Our conclusion, too, if it shall not have universal acquiescence, will be admitted by all to be coincident with the policy of the constitution and the condition of our country."

The Act under consideration had but a short existence, but the exigencies of the future may require similar remedies to meet them, and it is in a political point of view extremely important to ascertain the extent of power vested in a Bankrupt Court by the terms and provisions of this Act, which may serve as a guide to be followed, or an example to be avoided in future legislation.

Under the conclusions to which we have arrived, it is unnecessary to examine the other objections taken by the plaintiff to the force and effect of the bankrupt proceedings, being of opinion that so far as they affect the plaintiff's mortgage, the court was without jurisdiction. The plaintiff is entitled to his judgment. It is therefore ordered and decreed that the judgment of the District Court be avoided and reversed.

Art. XI.—THE RELATIONS OF MAN TO SOCIETY.*

I. The first principles of laws are discovered in two truths: 1st. That laws of man are rules of his conduct. 2d. Rules of his conduct are the steps man makes towards accomplishing the great object of his existence.

In the soul of man are two powers. An *understanding* to know, and a *will* to love. The first law of man is therefore his destination to the *knowledge* and *love* of that object in which he is to find his happiness. This is the spirit of religion. It enjoins man to *search* after and *love* that which makes up the sovereign good. This first law being common to men, it implies a second law, *unity* among themselves, and *love* of one another.

By the spirit of these two laws, God designed to unite men in the possession of their common good. He consequently makes society essential to their happiness.

II. As man cannot move towards an object except through the light of *understanding*, and the motions of *will*, God has made the knowledge and love of the sovereign good, in which consists the happiness of the mind and heart of man, to depend on man's obedience to the first law.

God has also so matched men among themselves, and adapted the universe to mankind, that the objects which incite in them the love of the sovereign good, engages them likewise to society and to mutual love of one another. Thus, the things of this life, while of common use only pass into that use by the labor of many persons. This renders men necessary to one another, and forms the various ties for the uses of agriculture, commerce, arts and sciences. The conjunction of spirit and matter, or of senses and members, makes them the instruments of two uses essential to society. First, by uniting the minds and hearts of men among themselves. Second, by applying men to the different labors necessary for supplying their wants.

God having destined man to society, hath formed certain *ties* which attach him to it. First, a general tie arising among men from their nature, and their destination to one and the same end, and which is common to all mankind: And secondly, particular ties, which unite men among themselves more closely, and determine each one to exercise towards particular persons that love which cannot be exercised towards mankind in general. The duties of men towards one another are only the effects of the love which every man owes to another, according to the engagements under which he happens to be.

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* Principles of the Civil Law, extracted from Domat's "*Les Loix Civiles, dans leur ordre naturel.*"

These particular ties are of two kinds. First, those formed by the natural ties of marriage, between husband and wife; and of birth, between parents and children; and by consequence of kindred and affinity. Second, those arising from the several communications of men with respect to their labor, industry, offices, services, or which relate to the use of things.

In the characters of these different engagements, we see the foundations of the several rules of that which justice and equity demand of every person, according to the conjunctures in which his engagements place him.

III. The engagements which marriage produces between husband and wife, and them and their children, form a particular society in each family. It is in the mysterious union of man and wife, and in the dependance of infancy upon the assistance of parents, that we discover the foundations of the laws relating to the ties of marriage and birth. Marriage being a tie formed by the hand of God, ought to be celebrated in a manner becoming its divine institution. It should be preceded and accompanied by decency; by the reciprocal choice of the parties; by the consent of parents; and be celebrated by the ministry of the church. A marriage once lawfully contracted, cannot be dissolved.

The union of persons in marriage is the foundation of all civil society, which unites them in the use of all things. The husband being the head of the wife, he has power over her, proportioned to the rank he has in the union. Marriage being instituted for the multiplying of mankind by the union of husband and wife, hence arises the principle of laws against other conjunctions.

In order to form the tie of birth, it is ordered, that man in infancy should for a long time depend on his parents; this is the origin of the grateful return children again make to the old age of parents. Children inherit the goods of parents after their death, as an accessory to the life they have received. And as the tie of birth unites fathers and mothers to their children, so it unites them to the descendants of those children. Thus all descendants stand as children, and all ascendants as parents. The opposition of the characters of the love which unites husband and wife, and parent and child, is the foundation of laws prohibiting marriage between ascendants and descendants, in all degrees, and between collaterals in some degrees.

From marriage and birth proceed two other natural ties. First, collateral relationship, called kindred. Second, allies by marriage called affinity. Ascendants and descendants are in a direct line from father to son. Collaterals have their own line terminating in the common ascendant.

IV. Engagements, not of birth or marriage, are *voluntary* or *involuntary*; for man is a free agent and enters upon some engagements willingly; others God puts upon him without his free choice. Voluntary engagements are of two sorts. 1. Such as are formed mutually between two or more persons, who bind themselves reciprocally to one another. 2d. Such as arise from the will of one of the parties alone, who engages himself to other persons who do not treat with him. Examples of the first kind, are: partnership, letting and hiring, buying and selling, and all kinds of covenant. Examples of the second sort, are: engagements, the consequences of voluntary employments, as executorships, &c. Involuntary engagements are such as arise from the duties of men in the offices of Judge, Sheriff, and others of like nature. From the guardianship of an infant; from the obligation to reimburse a friend who has managed our affairs in absence; the obligation of supporting destitute persons; employing the ministry and authority of justice in aid of the oppressed, &c. The spirit of the law of all these engagements, is, the love we reciprocally owe to each other. These engagements demand the use of a government to restrain every one within the order of those that are peculiar to him. It is for this that God hath established the authority of the powers necessary to maintain society.

V. From the engagements which have been mentioned arise certain general rules, which are principles of the civil law. These are

1. Every man is bound to discharge, in society, his duties and functions according as he is determined to them by his rank and his other engagements. The engagements of every person are therefore his proper laws.

2. Men should undertake nothing which may disturb the order of society. This implies submission and obedience to the powers established for the maintainance of society.

3. Each person is so to contain himself in his rank, as to make no bad use, either of himself or of that which belongs to him. This rule relates to the preservation of good manners, modesty and decency; and authorizes the punishment of such as fall into despair, blaspheme, squander their estates, &c.

4. Men should do wrong to no man, and render to every one his due.

5. In voluntary engagements, those who treat together, owe to one another: 1st. Sincerity in explaining, reciprocally, what it is they engage themselves to; 2d. Fidelity, in the execution of it. From this rule it results that the seller should declare sincerely the quality of the thing he sells; that he should take care of it, till he delivers it; that he warrant it.

6. In involuntary engagements the obligation is proportioned to the nature and consequences of the engagement.

7. In all engagements, infidelity, double-dealing, deceit and knavery are forbidden.

8. If a man refuses to perform what his engagements demand, the authority of justice may compel him.

9. Voluntary engagements may be made as men think fit, provided they are not contrary to rule ten.

10. All engagements are lawful only in so far as they conform to the order of society, and do not violate the laws and good manners.

VI. This chapter relates to friendships; and having no particular relation to laws proper, is omitted.

VII. The order of successions is founded on the necessity of continuing and transmitting the state of society. This is done by making certain persons succeed in the place of those who die. Successions are distinguished from engagements; for though successions oblige those who succeed to others, to bear their burdens and to pay their debts, it is under the view of the change which makes the goods, rights, burdens, and engagements of those who die, pass to their successors.

VIII. Society is disturbed by those troubles which disturb its order, law suits, crimes, and wars. Law suits are of two sorts: those which respect only simple interest, called civil causes; and those which are the consequences of quarrels, such as offences and crimes, called criminal causes. Crimes affect either the honor, the person, or the estate, and are suppressed, 1st. By correcting the guilty; 2d. By repairing the evil they have done; 3d. By restraining the wicked by the example of punishments.

Wars are the consequence of differences between nations, which being independent have no common judge: or they arise from the attempts of a prince, or state, upon a neighbour; or are rebellions of subjects.

IX. All the disorders in society arise from man's disobedience to the first law. The fall of man having increased his wants, hath augmented the necessity of labor and commerce; and the diversity of his wants engages him in ties, without which he could not exist. Self-love is, therefore, the cause of all evil to, and a remedy for, supporting society. But there are natural foundations for preserving society. 1. Religion: 2. The secret government of God: 3. The authority given to sovereign power; 4. The capacity of man to discover the natural rules of equity. This capacity is the light of reason, and teaches men to do harm to none, to render to every one his due, to be sincere in engagements, and faithful in executing promises, &c.

Art. XI.—SUB-SOIL PLOUGHING.

We publish the communication below without knowing the name of the author. As the remarks made are of a practical character, and likely to be of useful tendency, we freely give them. We are always pleased to have an expression of opinion from our planting friends, and invite them all to furnish us as often as they please the results of their experience and their views in all the departments of agriculture. This is an important division of our journal, in which we now stand entirely alone at the South. For the manner in which the author has seen fit to allude to the REVIEW, and to our labors, he will receive the expression of our warmest gratitude. To have done well, it is ever a high reward. We would fain do infinitely better.—ED. COM. REVIEW.

ASSUMPTION, January 20th, 1847.

I consider the article on "Cotton and the Cotton Planters," in your last number, as of far more value than my subscription money for the whole year. It is a volume which I mean to study, and if I cannot make out of it a profit fifty times the amount of five dollars by the year's end, I shall, indeed, prove a dull scholar.

The time will come, and is now to an extent, when we shall be compelled to pay more regard to the thorough culture of our soil than we have. The caterpillar in the Cotton, and the worm in the Tobacco, as also, the new epidemic, the rot in the potatoe, I consider as the *effect* of disease, and not the *cause*.

To guard against them, we must do our best to render our crops so strong and healthy, as to be able to throw off a slight attack, or to bear up under severe infliction. Many years ago, Jethro Tull discovered that the pulverization of the earth was the best manure that could be given to the crop; and after five crops of wheat in succession had been grown on this principle, he declared that they had been uniformly greater every year to the end of the experiment. Now, this speaks volumes in favor of a more thorough culture of our lands; but I am inclined to doubt, whether our small and sharp-cutting ploughs are the best calculated to produce that state of uniform pulverization, which is more especially needed in our alluvial soils in the vicinity of the river. By means of larger ploughs, we should penetrate deeper, and operate by *breaking* up the earth, rather than by *cutting* it on the principle of spade labor, which has been denominated "the perfection of good husbandry;" and I have no doubt we should find a benefit to the crop and a saving of labor in the after-culture, that would secure us such an increase in the yield as to constitute the difference between a profit and loss at the end of the year. At any rate I mean to try it.

I saw and examined the ploughs that were exhibited at the Baton Rouge Fair; and, in connection with your valuable article, as also in unison with the opinion expressed by the editor of the "Concordia Intelligencer," of the 9th instant, in a very interesting and elaborate description of them, would take leave to say, they appear the best adapted of any I have before seen, to the purpose of renovating our soils and strengthening our crops. They were the "Prouty & Mears" or "Centre Draft" Ploughs of extra workmanship and high finish.

I perceive the use of the Sub-soil Plough is coming into notice. Three of these by the same makers were exhibited, and I regretted exceedingly that no opportunity could be found of putting their pretensions to the test. A friend from the tobacco region informs me, if just at the time when the prognostic of the worm makes its appearance—a particularly vivid appearance of growth, like the hectic glow of a consumptive patient—a Sub-soil Plough is run between the rows to the greatest depth it can be worked, by two or three horses or mules, in length, so as to allow a superabundance of moisture to pass off, or in a season of drought to permit evaporation from the sub-soil, a difference in the verdure of the plant is soon perceptible, and a natural vigor of growth such as to throw off the attack; he also advocating the novel doctrine, that both the caterpillar and the worm are the *effects* of disease, and not the primary *causes*.

For your next number I hope to furnish you with an article on the all-important uses of the operation of draining, in connection with the invaluable paper on that subject in your last. R. C.

FOREIGN COMMERCE.

Commerce and Tonnage of the World.

Tonnage Great Britain 3,000,000; France 590,000; Sweden and Norway 480,000; Holland 375,000; Prussia 225,000; Austria 210,000; Two Sicilies 208,000; Sardinia 170,000; Denmark 155,000; Greece 148,000; Turkey 180,000; Portugal 81,000; Spain 80,000; Bremen 60,000; Hamburg 57,000; Hanover and Oldenburg 57,000; Russia 51,000; Ionian Islands 49,000; Mecklenburg-Schwerin 46,000; Roman States 39,000; Tuscany 25,000; Belgium 28,000; Lucca 20,000; United States of America 2,400,000.—Total 8,734,000.

In our December number we were over high in estimating the relative commerce of England, and too low in estimating the smaller nations. The proportionate commerce of all Europe is thus represented by Lloyd: England 51 13-16; France 13 3-5; Holland 5 7-9; Hamburg 4 4-5; Russia 3 8-9; Sardinia 3 1-6; Belgium 2 1-9; Prussia 2 1-9; Austria 1 4-5; Two Sicilies 1 1-2; Sweeden and Norway 1 1-5; Tuscany 1 1-9; Denmark 1 1-45; Bremen 1; Portugal 8-9; Spain 14-15. All other States together 6 per cent.

UNITED STATES COMMERCE.

Year ending 30th June, 1846.

1.—IMPORTS.

Free of Duty.

	1845.	1846.		1845.	1846.
Bullion, gold,	$66,103	$14,150	Brass, do. do. do.	$13,702	$2,673
silver,	41,275	33,579	Dye-woods, in sticks,	603,408	588,654
Specie, gold,	572,747	896,263	Barilla,	22,917	24,428
silver,	2,210,117	2,833,740	Burr stones, unwrought,	32,624	44,688
Teas,	5,730,514	5,022,600	Crude brimstone,	108,619	91,334
Coffee,	6,221,271	8,404,958	All other articles,	3,880,106	4,718,407
Copper in plates and sheets,	738,936	840,815			
Do. in pigs, bars and old,	1,225,301	1,251,150		$22,147,840	$24,767,739

Duty ad valorem.

	1845.	1846.		1845.	1846.
Manufac. of wool	$10,057,875	$9,673,425	Grass cloth, matting & matts	176,249	241,665
of cotton	13,863,282	13,530,625	Wire, brass, copper and plated	18,256	16,704
Silk and wors. goods	1,510,310	1,778,202	Arms, fire & side	146,155	151,427
Camlets and other man. of goats hair and mohair	228,838	69,091	Manuf. of iron and steel	4,023,590	3,933,817
Silks, floss and manuf. not specified	1,027,541	1,864,811	copper	107,756	133,728
Lace, thread and cotton, gold & silver, &c.,	1,151,438	1,017,426	brass	120,083	124,862
Flax, manf. of	4,923,109	5,098,505	tin	13,131	12,891
Hemp do.	507,983	543,530	other metals	26,517	32,000
Clothing, ready made, & other art. of wear	1,173,028	847,742	Saddlery	268,247	258,246
			Man. of leather not specified	109,668	127,131
			Do. wood	176,091	294,376
			Glass, above 22x14 inch	80,263	167,746
			Do. silvered, framed and other articles	371,375	351,464

Table continued.

	1845.	1846.
Hats and bonnets, Leghorn, straw, chip & palm leaf	$765,026	$944,603
Wares, China & porcelain	252,256	262,498
Do. earthen & stone	2,187,259	2,262,851
Do. plaited and gilt	159,227	143,946
Do. japanned	59,895	59,325
Furs, undressed on the skin	256,586	325,550
Do. hats and muffs	16,646	12,829
Do. hatters' & other	465,739	457,932
Hair cloth and seating	90,643	124,547
Brushes of all kinds	67,426	98,292
Paper hangings	46,285	52.086
Slates of all kinds	121,768	155,930
Black lead pencils	11,798	14,209
Copper bottoms, cut round, &c.	3,455	13,380
Zinc in plates	73,909	68,127
Chronometers and clocks	30,806	31,494
Watches & parts of watches	1,106,543	1,265,393
Gold and silver manuf. of	39,380	36,853
Jewelry	139,539	180,055
Quicksilver	54,993	155,813
Buttons, metal and other	$109,230	$271,335

		1845.	1846.
Teas imported from other places than those of their growth and produce		31,274	9,521
Coffees, do. do.		22,261	15,285
Corks		90,862	92,751
Quills		9,387	13,878
Wood, unmanf. mahogany & rose		299,082	260,347
Wool, not ex. 7c. lb. 1845, lbs., 23,382,097; 1846, lbs. 16,427,952		1,523,789	1,107.305
Ex. 7 c. per lb., 1845, lbs. 450,913 1846, lbs., 130,295		136,005	26,921
Art. not enum. at	1 per ct.	212,975	300,275
	2½	1,690,460	2,105,628
	5	4,975,003	4,307,100
	7	32,576	21,270
	7½	29,685	67,022
	10	170,641	126,487
	12½	253	467
	15	292,873	363,525
	20	2,290,897	2,947,361
	25	1,103,334	992,732
	30	1,064,616	592,521
	35	46,701	44,024
		$60,121,862	$60,660,453

Specific Duty.

	1845.	1846.
Silk, sewing, twist and manuf.	$8,903,941	$9,019,485
Do. hats and bonnets	17,839	24,469
Woollens, flan. and baizes	175,387	156,851
Carpetings	431,914	253,543
Sail duck	272,031	217,162
Cotton bagging	128,525	24,521
Floor cloth and sail cloth	32,864	19,065
Wines, all descriptions	1,470,186	1,848,044
Spirits and cordials	1,191,120	1,323,021
Beer, ale, porter,	96,598	152,146
Vinegar	6,252	4,639

	1845.	1846.
Molasses	3,154,782	3,332,297
Oils, olive in casks	48,579	54,383
linseed	105,574	48,424
all other	3,779	7,812
Cocoa	92,389	122,679
Chocolate	1,627	952
Sugar	4,780,556	5,447,257
Fruits, almonds, currants, raisins, &c.,	1,075,026	1,001,402
Nuts, except those used for dying	68,733	83,289
Spices, mace, nutmeg, pepper, &c.	506,621	525,413
Ginger	26,434	43,480

Table continued.

	1845.	1846.
Camphor	143,542	64,374
Cheese	8,831	7,051
Pearl barley	1,729	632
Beef and pork	1,088	776
Hams & bacon	3,540	4,276
Bristles	172,076	244,719
Saltpetre	80,885	10,705
Indigo	862,700	898,518
Wood or pastel	3,194	754
Ivory black	1,243	1,682
Opium	37,638	295,859
Glue	1,275	3,534
Gunpowder	3,284	132
Bleaching powder	73,174	114,450
Cotton	648,966	144,055
Thibet, Angora & other goats' hair	78,443	20,323
Cigars	1,160,644	1,282,861
Dry ochre and in oil	22,168	37,715
Red and white lead	14,744	15,686
Cordage and cables	89,696	85,907
Twine & packed thread	115,768	87,760
Seines	5,298	3,753
Hemp of all kinds	536,707	730,064
Flax, unmanf.	99,609	16,337
Rags of all kinds	431,980	385,397
Manuf. of glass of all kinds	140,301	160,633
Demijohns	5,408	6,386
Patent sheathing metal	5,874	41,341
Pins	45,078	16,434
Muskets & rifles	16,185	6,700
Wire—iron and steel, cap, bonnet, &c.	25,661	24,459
Manuf. of iron tacks, screws, nails, spikes, cables, mallea-iron, &c.,	156,644	173,555
Manuf. of iron & steel, screws, anchors, anvils, castings, hollow ware, hinges, braziers' rods, sheet and hoop iron, &c.,	736,707	706,820
Iron in pigs	506,291	489,573
Do. old & scrap	119,740	56,531
Do. bar, manuf. by rolling	1,691,748	1,127,418
Do. otherwise	872,157	1,165,429
Steel	795,675	1,234,408
Leather, sole & upper, gloves, boots & shoes,	743,795	839,441
Skins, tanned	127,123	163,492
Paper, writing, and all other	51,724	77,424
Books of all kinds	229,362	255,404
Coal, 1845, tons, 35,776; " 1846, tons, 156,853;	223,919	378,597
Salt,	898,663	768,682
Potatoes,	58,949	22,721
Fish, dr'd or smk'd	9,646	9,319
Do pickled	280,519	279,515
Art. not enumerated	86,801	121,756
Total paying specific duties	$34,914,862	$36,263,605
Total paying duties ad valorem	60,191,862	60,660,453
Total free of duty	22,147,840	24,767,739
	$117,254,564	$121,691,797

2.—Exports and Imports.

Total Exports from the United States to all Foreign Countries, and Imports thence, for the year, ending 30th June, 1846:

	Exports to.	*Imports from.*	*Exp. & Imp.*
Russia,	$632,467	1,570,054	2,202,521
Prussia,	435,855	31,584	467,739
Sweden,	543,906	730,150	1,274,056
Denmark,	1,247,158	753,927	1,301,085
Hansetowns,	4,608,620	3,149,864	7,758,484
Holland,	2,727,445	1,971,680	4,699,125
Belgium,	2,381,814	836,372	3,218,186
Great Britain,	61,705,446	49,666,422	111,371,868

Table continued.

	Exports to.	*Imports from.*	*Exp. & Imp*
France,	15,825,851	34,330,882	40,156,733
Spain,	6,792,228	12,376,482	19,168,710
Portugal,	204,976	547,474	752,450
Italy,	1,366,915	1,189,786	2,556,701
Sicily,	617,832	513,235	1,131,067
Sardinia,	284,259		284,259
Trieste and the Adriatic ports,	1,470,611	379,719	1,850,330
Turkey, &c.,	200,103	760,998	961,101
Morocco,		4,554	4,554
Texas,	473,603	183,058	656,661
Mexico,	1,531,180	1,836,621	3,367,801
Central America,	120,253	116,733	236,986
New Grenada,	75,944	67,043	142,987
Venezuela,	781,547	1,509,000	2,290,547
Brazil,	3,143,395	7,441,803	10,585,198
Argentine Republic,	184,425	799,213	983,638
Cisplantine Republic,	225,904	26,472	252,376
Chili,	1,768,570	1,270,900	3,044,530
Peru,		252,599	252,599
Republic of Equador,	1,130		1,130
China,	1,331,471	6,593,881	7,925,622
Hayti,	1,157,142	1,542,962	2,700,104
South America, generally,	103,772		103,772
West Indies, generally,	127,651	12	127,663
Asia, generally,	428,519	361,988	790,507
Africa, generally,	632,351	475,040	1,107,391
Pacific Ocean,	354,903	153,029	507,932
Sandwich Islands,		243,034	243,034
Atlantic Ocean,		166	166
	$113,488,516	$121,691,797	$235,180,313

3.—Exports.

Comparative re-export Foreign Merchandize.

Of Free Articles.

	1845.	1846.		1845.	1846.
Wood, dye, and all other,	$349,067	$374,299	Specie, silver,	$5,551,070	$1,852,069
Copper in pigs, bars, plates, &c.,	62,775	15,900	Teas,	920,893	1,039,263
Specie, gold,	2,210,979	1,629,348	Coffee,	840,739	602,064
			All other articles,	239,576	311,103
				$10,175,099	$5,824,046

Of Ad Valorem.

	1845.	1846.		1845.	1846.
Manufac. of wood,	$148,270	$140,344	Saddlery, &c.,	$331	$621
cotton,	502,553	673,203	Manuf. of tin, brass, copper, &c.,	567	3,705
silk, not specfied,	31,012	32,031	Manuf. of leather,	1,156	487
Thread and cotton ball,	4,892	4,390	Plate glass, ex 22x14, silvered & framed,	546	4,088
Manufac. of flax,	159,626	125,570	Hats, and Leghorn, chip, straw, &c.,	32,655	27,352
hemp.	51,648	36,197	Wood, cabinet ware, & other manuf. of,	7,156	6,230
Clothing ready made and art's. of wear,	64,984	198,695	Wares, china, porcelain, earthen & stone,	22,701	73,403
Grass cloth, matting and matts,	2,989	10,489	Wares, plated, gilt & japanned,	1,745	318
Manufac. of iron and steel,	46,392	37,356			

Table continued.

	1845.	1846.
Furs undressed on the skin, & hats, caps, muffs, tippets, hatters and other furs,	$31,114	$81,201
Paper hangings,		4,911
Slates of all kinds,	1,920	2,085
Zinc, plates or sheets,	311	60
Clocks, watches and parts of watches,	8,445	1,902
Manuf. of gold, silver, and platina,	287	2,989
Jewelry of gold and silver,		1,180
Metal buttons, and all others,	1,514	1,035
Teas imported from other places than those of their growth,	6,264	2,403
Coffee,	1,736	6,204

	1845.	1846.
Corks,	$3,974	$3,534
Wood, unmanfact'd, rose, satin, cedar & mahogany,	82,555	116,799
Wool, ex. 7c. per lb., 1845, lbs., 64,495; 1846, lbs. 125,286,	22,153	41,571
Mdz. not enumerated, at 1 per cent.,	1,325	1,413
2½ “	7,648	15,312
5 “	218,123	261,888
7½ “	325	775
10 “	15,473	1,450
12½ “		5
15 “	49,421	66,724
20 “	413,221	472,120
25 “	80,607	75,430
30 “	56,580	159,367
35 “	21,201	17,364
	$2,107,292	2,702,251

Of those Paying Specific Duties.

	1845.	1846
Silk; sewing, twist, & all manufact'd of,	$235,538	$191,362
Silk hats,	227	1,320
Flannels,	3,747	7,058
Carpeting,	629	137
Sail duck,	29,485	27,607
Cotton bagging,	18,173	32,665
Wines, of all descriptions,	57,794	73,357
Spirits and cordials,	95,957	94,076
Beer, ale and porter,	7,059	18,354
Vinegar,	924	814
Molasses,	82,761	78,222
Linseed oil,	19,494	15,288
Olive oil,	4,947	4,600
Cocoa,	152,630	57,648
Sugar,	784,252	1,133,071
Fruits, almonds, currants, prunes, figs, dates, raisins,	40,981	69,954
Nuts not specified, except those used for dyeing,	3,555	6,223

	1845.	1846.
Spice, maces, nutmegs, cinnamon, cloves, pepper, pimento, cassia,	$228,075	$240,411
Cheese,	1,656	239
Beef and pork,	1,797	
Saltpetre,	7,085	10,020
Indigo,	94,686	34,634
Opium,	18,922	21,761
Tobac. manf. cigars,	75,819	114,089
Cotton, unmanufac.,	792,545	167,729
Cordage and cables,	78,699	102,091
Twine & pack thread,	6,697	4,524
Cylinder window glass,	1,324	94
Demijohns,	4,808	3,347
Muskets,	20,631	14,373
Manufactures of iron,	21,105	53,601
Steel,	20,002	32,864
Writing paper,	6,053	6,870
Salt,	15,304	20,116
Coal,	35,957	41,906
Articles not enumer'd,	95,057	153,464

	1845.	1846.
Paying specific duties,	$3,064,439	$2,820,326
Paying duties ad. valorem,	2,107,292	2,702,751
Free of duty,	10,175,099	5.824,046
	$15,346,830	11,346,123

6.—THE VALUE OF AMERICAN CONSULATES.

According to the reports made to the Secretary of State, the total amount of fees received by the most important Consuls, abroad, in 1845, were as follows: London, $2,620 70; Liverpool, $9,963 46; Glasgow, $2,105 61; Paris, $1,600 55; Havre, $3,061 50; Havanna, $3,781 00; Antwerp, $1,938 73; Trieste, $1,418 95; Bremen, $1,152 22; Canton, (China,) $1,070 50; Oahu, (Sandwich Island,) 3,390 00; Rio de Janeiro, $5,332 50; Buenos Ayres, $1,456.

7.—PROSPECTS OF AMERICAN POPULATION.

In answer to a query put to him by the Hon. John C. Calhoun, Wm. Darby, Esq., one of the early historians of Louisiana, makes the following response:

The population of the United States taken decennially, has augmented since 1790 by an increase of 3 per cent. per annum. Thus, in 1790, 3,929,827; 1800, 5,305,-925; 1810, 7,239,814; 1820, 9,638,131; 1830, 12,856,407; 1840, 17,063,353. Following this ratio, it would be,

In 1850,	23,027,694
" 1860,	31,596,562
" 1870,	41,839,588
" 1880,	55,822,519
" 1890,	73,977,990
" 1900,	102,840,201

These data give lessons of the very highest import—lessons to rouse reflection on the facts that, if less than four millions, have increased to upwards of seventeen millions in fifty years, what will be the mighty influence of such increase of moral force with a constantly augmenting impetus, and expanding space, we might almost say. The zone of North America between north latitudes 30 and 50 degrees, exclusive of water surface, rather exceeds than falls short of three millions of square miles, and does not, to any great extent, vary from an equality to all Europe. Of this expanse, the United States territory already embraces upwards of two millions five hundred thousand of square miles, and consequently, when the population rises to one hundred millions, the mean density would then be under 50 to the square mile—a density far below that of several of the existing States at the present time. When we have thus means to decide the future, why not provide for its foreseen and inevitable results?

With California, the United States territory would exceed that of all Europe.

8.—MORTALITY OF STEAMBOATS.

In the year ending the 1st Nov., 1846, the losses in steamboats are estimated at 145, 116 of these being totally destroyed. The number of lives lost 310, and 93 persons injured more or less seriously. The number of boats lost on the Western rivers was 120; of which 46 were snagged, 38 were sunk, 16 burst boilers, 15 were run into by other vessels, 13 were destroyed by fire, 10 were ship-wrecked, and 7 were cut through by the ice. Total loss in value $4,000,000 to $5,000,000.

STATISTICS OF CITIES.

1.—THE CITY OF ST. LOUIS.

During the year 1845 the number of new buildings put up in this prosperous city, some of the most elegant character, is estimated at eighteen hundred, and during 1846 the number is supposed to have been little less. "Any one" says a writer "casting his eye over a map and tracing out the avenues which centre at this place, will at once see the importance of the future trade and business of St. Louis. The channels of communication are of such a nature that the trade of an immense region must come here, and it cannot be turned aside. It is useless to deny that all the elements of greatness are here, and that the increase of our population is to keep on at as rapid a rate as in times past, until we reach that degree of prosperity witnessed in no other inland city on this continent. Our position controls the only practical route to Santa Fe, and a large territory can be supplied with merchandise from this point with greater facility than from any other. We have the command of the greatest grain-growing region of country in the world, and as those cities upon the Gulf engage in the commerce of Mexico, they must receive a great portion of their supplies through our agency."

2.—PITTSBURGH.

Clearances in year ending Nov. 30, 1846, 3,241; goods received from the East by canal, 12,651,818 lbs. dry goods; 10,522,463 lbs. hardware; 4,957,454 lbs. chinaware; 3,969,234 lbs. muslin; 6,933,856 lbs. groceries; 514,941 lbs. drugs; 10,920,993 lbs. coffee; 784,172 lbs. manufactured tobacco; 386,225 lbs. leather; 13,890,705 lbs. bloom iron; 15,410,966 lbs. pig iron; 107,352 lbs. paints; 1,029,814 lbs. tin; 121,951 lbs. glassware; 502,377 lbs. marble; 3,407,281 lbs. iron and nails; and 429,113 lbs. copper.

The following is the amount of goods shipped from that city to the East: 156,412 bbls. flour; 19,620 bbls. beef and pork; 21,661,236 lbs. bacon; 675,561 lbs. cheese; 800,265 lbs. butter; 291,313 lbs. tallow; 2,929,286 lbs. lard and lard oil; 40,199 lbs. feathers; 3,403,161 lbs. wool; 1,000,971 lbs cotton; 1,287,886 lbs hemp; 24,696,742 lbs. tobacco leaf; 185,200 lbs leather; 454,146 lbs. hides; 110,969 lbs. furs; 993,378 lbs. deer and buffalo skins.

AFFAIRS OF THE STATES.

Under this head it is our intention to include the States of the whole Union, and from time to time to make an exhibit as far as the facts may be furnished us, from whatever source, of their actual condition, resources, legislation and general movements.

1. MAINE.—The total amount of indebtedness, according to the statement of the Treasurer in April last, $1,441,509 21, with an estimated excess of revenue for the coming year over estimated expenditures of $445,628 49.

2. MASSACHUSETTS.—The Commonwealth now appears to be out of debt, except on account of its subscription to the Western Railroad, of $1,000,000, due in 1857, and its loans to various Railroad Corporations, of about $5,000,000.

The Massachusetts School Fund now amounts to $830,600, and has increased $77,000 during the past two years, and also been drawn upon for $8,000 a year more for various educational purposes at the same time.

3. MICHIGAN.—July, 1845, from Gov. Barry's message—Funded debt, $3,355,242 48; unfunded, $721,934 90. Total indebtedness, $4,077,177 38: Assets and resources of the State, 4,150,000; excess of resources, 72,822 62; shipping in 1819, 600 tons; in 1846, 26,000; exports in 1836, 475,000; 1840, 1,305,000; in 1846, 4,647,608.

4, IOWA.—Gov. McKnight, on retiring from office at the close of last year, gives the amount of the State debts to be $27,791; resources to meet the debt $8,167.

5. MARYLAND.—Total debt on 1st December, 1845, $15,186,789 98.

"The present condition of things, in regard to the public debt of Maryland," says a writer in a late number of the Banker's Magazine, "is deeply to be deplored. It constitutes a crisis in her history that can never be remembered or referred to with pleasure. It is true that no sentiment of repudiation obtains footing here. Our people are, by far, too proud and too honorable for that. The chivalry of her sons could never bend to such humiliation. But, owing to her great undertakings, and the incomplete condition of all of them, the burthen of debt contracted on their account, and which is, hereafter, to be distributed amongst them, now rests as an incubus upon the state. She, as the foster mother, has to bear the burthen, until her canals and railroads are completed. In the meantime, the calls upon the public treasury for the annual interest are very heavy; and the resources of the state, though greatly enhanced by new assessments and new rates of taxation, have been inadequate to meet them. A temporary suspension upon the interest payments has been the result: and a much deplored and injurious depression of the public stock has followed. This is alike disheartening to the creditor and mortifying to the debtor.

"But she is earnestly at work in attempts to fill the treasury; her great works are nearly approaching the mineral regions; it is now the settled policy of the country that the great fund of the public lands is to continue in a way of distribution, and Maryland will soon emerge from her difficulties with pure hands and an unsullied reputation."

6. Indiana.—According to the late message of Gov. Whitcomb,

"The ordinary expenses of the Government, for the fiscal year ending on the 31st of October last, were $69,136 59, being $1,985 70 less than those of the preceding year. The ordinary expenses for 1847 are estimated by the auditor in his report, herewith submitted, at $67,400. The value of taxable property returned for 1846, (estimating for the same counties,) is $122,265,686, being an increase of $3,395,435 over that of last year. A strong proof of the growing prosperity of the State, is afforded in the progressive diminution of the rate of delinquency for the last three years. The rate for 1843, was $17 34 on the hundred; and for 1844, it was $16 18 on the hundred; and for 1845, it was $15 18 on the hundred."

7. Kentucky.—Total amount of taxable property by the last census, $242,388,967, being 17,900,806 over that of 1845. The increase of revenue in same time being $23,241; the present amount $383,283. Average value of land per acre in the State, $6 31.

8. Ohio.—We have already furnished in the present number an article upon this State, but the following extract from an article lately published in the Edinburgh Review, will be found of interest:

"The State of Ohio is the most wonderful of all transatlantic wonders in respect of rapid progress. It was a territory of forty thousand inhabitants in the year 1800; It is now a republic with two millions of citizens—as many as those of Venice or the United Provinces in their proudest days—with a profusion of agricultural wealth almost outrunning the need of available markets, and paying her dividends. And there is room for millions more; for the whole State is one rich tract of undulating plain, covered from end to end with the finest forest trees of America, and intersected by navigable waters. Its natural resources are practically unlimited, and yet Ohio forms only a small section of that vast region sloping from the Alleghanies to the Mississippi, which is almost every where equally productive and equally accessible."

According to the message of Governor Bartley, December 1846, the total debt of Ohio is,

Foreign, - - - - - - - - - - -	$16,664,292 50
Domestic, - - - - - - - - - - -	765,136 12
School and Trust Fund, - - - - - -	1,482,682 68
	$19,212,111 30

9. Pennsylvania.—The public debt of the State is thus distributed:

Stocks bearing 6 per cent interest, - - - - -		$1,752,335
" " 5 " " - - - - -		34,786,932
" " 4½ " " - - - - -		200,000
		$36,739,267
In Relief notes in circulation, - - - - - -		1,258,572
In interest Certificates out, - - - - -	$1,689,022	
" " unclaimed, - - - -	28,392	

In interest on these till 1st August 1845, if funded,	171,389	
		2,888,803
Due domestic creditors, - - - - - - - - -		99,750
Total public debt, - - - - - - - -		$40,986,392

The whole of this debt was contracted—with the exception of a small sum of about 182,000, for the Eastern Penitentiary, the Insane Asylum, and Treasury purposes—for the construction or enlargement of public works, and to provide means, most improvidently, to pay interest. For two or three years before the failure of the State to pay her interest, it had only been paid by borrowing: a ruinous expedient, that was happily brought to a close when the State resumed its payments in February, 1845, out of funds derived from taxation and the tolls and receipts of the public works.

10. New York.—By the late message of Governor Young, it appears that the whole debt of the State, both direct and contingent, amounted at the close of the last fiscal year to 24,934,080,95; deducting contingent liabilities, it will be found to be 23,021,080 95. The aggregate of the debts contracted on account of all the canals from information derived from the same source, amounted at the same time to $17,028,240 13.

11. Missouri.—Message of Gov Edwards:

"The revenue from taxes for the last two years amounted to $330,752 60 .The ordinary expenses of the State Government for the same period—including the expense of holding the State convention about 15,000—amounted to 247,274 78. This shows an ordinary revenue above ordinary expenses of 83,492 83. The bonus and dividends from the Bank for the same period were 29,817 27, and the interest on the State bonds outstanding, not including 35,000 due the Jackson and Palmyra branches, amounted to 42,000, for the same period. This makes an excess of interest on State bonds over the income from the Bank to the State of $113,182 73."

12. Arkansas.—With regard to the aggregate debts of the State, the annual message of the Governor in December last remarks:

"Two banks were established upon the credit of the State soon after her admission into the Union; and on account of bonds issued to these banks, the State now stands solemnly pledged, besides her ordinary expenses, for the payment of the enormous sum of $2,769,336, with the accumulated amount of interest thereon of 848,891, making the grand total of 3,617,227, with an annual accruing interest of $164,660." One of the banks went into liquidation in 1842, and the Governor recommends that the other be wound up—a proposition, however, which it is thought will meet with but little favor in the Legislature."

13. Louisiana.—The Treasurer's Report, says Governor Johnson, in his message of January 1846:

"The Treasurer's Report will exhibit a general statement of the receipts and disbursements of the State government during the last fiscal year, ending on the 31st of December, and shows a balance in the Treasury on that day, of $391,785 61 cts., which is an excess over the amount in the Treasury at the end of the preceding fiscal year, of $166,785 61. The State debt proper, is $1,293,000, a small portion of which falls due in June, 1848, and may be provided for by this or the next Legislature."

LOUISIANA.

1.—The Parishes of Louisiana.

Concordia.—Area of the Parish 426,100 acres; in cultivation about 4,000, yielding in good seasons 25,000 bags of cotton. Many of the planters are now preparing to turn their attention to sugar. We extract from a late number of the Concordia Intelligencer, that valuable paper, the following statement in relation to the Parish:

	1845.	1846.
Valuation of land and slaves,	$3,615,000	$4,791,796
No. acres taxable land,	178,301	185,060
" of slaves,	5,671	6,345
" " horses and mules,	2,176	2,258
" " horned cattle,	6,741	6,948
Bales of cotton raised,	22,070	
Barrels of corn,	321,900	
Money at interest,		$21,185
Retailers of goods,	1	7
Taverns,	3	3
Grog shops,	2	3
4 wheel carriages,	29	33
Professional men,	17	17

	1845.	1846.
Amount of levee tax on land cultivated at 10 cents, and uncultivated at 5 cents per acre,	$10,677 05	$11,000 00
Amount of State tax,	8,066 19	8,887 74
" Parish tax,	8,066 19	8,887 74
Total of taxes in Concordia Parish,	$26,809 43	$28,775 48

Ouachita Parish.—The table below is furnished by the Assessor:

No. of acres of land, first class,	25,311
No. acres of taxable land, second class,	30,282
No. acres taxable land, third class,	57,085
Total No. acres subject to taxation,	112,678
No. of town lots,	150 00
Valuation of land, town lots, etc.,	421,490 00
Amount of tax on land and town lots,	150 07
No. of slaves, 2,171, tax thereon,	2,171 00
No. of horses and mules 545, tax 3 cents,	16 25
No. horned cattle 2,526, tax 1 cent,	25 26
Money at interest 2,220, tax 1-8,	3 27
Retailers of goods 9, tax $15,	135 00
No. of taverns 1, tax $10,	10 00
No. of grogshop keepers 3, tax $50,	150 00
No. of 4 wheel carriages 20, tax $5,	100 00
No. of 2 wheel carriages 13, tax 2 50,	32 00
No. lawyers and physicians 12, tax $10,	120 00
No. billiard tables 2, tax $50,	100 00
Total amount of taxes for the year 1846,	$3,413 44
No. children between 5 and 15 years old,	396
No. barrels of corn—crop of 1845,	80,218
No. bales cotton do. do.	5,942
No. acres of cotton in cultivation 1846,	7,498
No. do. corn do. do.	5,790
Valuation real and personal property,	$1,824,487

2.—LOUISIANA SCHOOL FUND AND EXPENDITURE.

By the statement of Chas. Gayarre, Esq., Secretary of State, it is shown that there are 745,920 acres of land given to the State by the General Government, which, at 1 25 per acre, would give for school purposes, $932,400, or if funded at 6 per cent., would give an annual revenue of $60,000.

3.—LOUISIANA HISTORICAL DOCUMENTS.

According to the statement made by E. J. Forstall, Esq., to Gov. Roman, there are some eight or ten thousand pages of manuscripts now in France, relating intimately to the early history of our State, copies of which, it is estimated, might be made for less than one thousand dollars. There are, also, papers at Madrid, which Mr. Prescott, in a letter to Mr. Gayarre, says can be obtained at a very inconsiderable expense. These papers, independently of their literary character in shedding light upon the early history of Louisiana, would, without question, have much value in a judicial point of view, in the determination of the intricate question of our land titles. In any case they should be brought to this country, and we see that a movement is now being made in the Legislature for the purpose. Let us hope that a reasonable liberality will be displayed.

The following is a list of authorities now to be consulted upon Louisiana, most of which we believe to be in the State Library: Charlevoix, Laval, Robin, Dulac, Baudry des Lozieres, Bossu, Baron de Lanhoutan, Dumont, Le Page, Hennepin, La Hare, Tonti, Duprats, Vergennes, Darby, Stoddard, Brackenridge, Martin, a volume of Collections by Mr. French, and the first two volumes of Gayarre.

AGRICULTURE OF THE SOUTH AND WEST.

1.—Louisiana Agriculturalists' and Mechanics' Association.

In devoting one portion of a periodical entitled Commercial, to the *Agricultural* and *Mechanic* interests, we are but obedient to those principles of social organization which unite in indissoluble bonds the leading branches of industry. Dependent one on the other, in the closest manner, a common decline or a common progress must await them all. To till our fields, the power of art, or of mechanism, is as necessary as that of nature. We tax and demand tribute of them both alike. But what are our fields, in all their abundance, if no wind receive the sails of our commerce, and distant men exchange not their abundance for ours. Said Sir Joseph Child, and said well, "land and trade are twins, and will ever wax and wane together. It cannot be ill with trade but lands will fall, nor ill with lands, but trade will feel it."

The "Louisiana Association of Agriculturalists and Mechanics" has been organized about four years, and held its annual meetings at Baton Rouge. At each of these meetings, there have been exhibited products of ingenuity and skill, of farming and of improved agriculture. Addresses have also been delivered and published: the first by Hon. T. W. McCaleb, the second by Hon. P. A. Rost, the third by T. B. Thorpe, Esq., and the last by J. D. B. DeBow, Esq. The Association has awarded premiums at each of its meetings, and the attendanec, though not of the largest, has still been of the most respectable character. The spirit evinced at Baton Rouge and the vicinity, by its liberal and hospitable planters, has been of the best character, and deserving the commendation of the State at large. Henceforward the path of the Association must be with brighter auspices; and we commend it now to the fostering care of the Legislature of our State, to the planters from the Sabine to the Lafourche, to the artisans whose prosperity identifies itself with that of the soil. Let the influences extend wide and near, and the Louisiana Association will be speedily advanced to the high and influential position occupied by other similar bodies in different States of our confederacy.

Our object, however, was to speak of the meeting of the 4th and 5th of January last. Much preparation had been made by the Committeee of Arrangements; and the Committee of Invitation succeeded in obtaining the presence of Mr. Clay "as a citizen deeply sympathising in every movement of a public character and as an agriculturalist long and practically engaged in the development of the resources of the soil." The following note was received by the Committee:

New Orleans, 30th December, 1846.

Gentlemen:—I have the honor to receive your obliging invitation to attend the approaching Annual Fair, at Baton Rouge, of the Agriculturalists' and Mechanics' Association, and take pleasure in expressing my acknowledgments for it.

Retaining a lively recollection of the satisfaction which I enjoyed on a former occasion, and sharing with the Association in their laudable desire to advance and promote the interesting objects of their institution, I accept the invitation with great pleasure, and hope that no obstacle will arise to prevent my attendance.

I am, with great respect, your obedient servant,

H. CLAY.

Messrs. F. D. CONRAD, J. D. B. DE BOW, etc.

By a unanimous vote the Hon. Henry Clay, of Kentucky, and the Hon. Zadoc Pratt, of New York, were elected honorary members. Of Mr. Pratt we shall publish a biographical sketch in our next number.

The Oration was delivered by J. D. B. DeBow, of New Orleans.

After the various proceedings, the following list of Officers were elected for the coming year:

PRESIDENT,

Col. WILLIAM HICKEY, of East Baton Rouge.

VICE-PRESIDENTS,

J. Cooper, East Baton Rouge; Valcour Aime, St. James; C. Adams, Iberville; D. J. Fluker, East Feliciana, B. Richardson, St. Tammany; Gen. E. Sparrow, Concordia; Gen. Joseph Walker, Rapides; D. Peck, Ouachita; Judge Campbell, Opelousas; J. J. Pocke, Natchitoches; P. A. Rost, German Coast; Verloin Degruy, Jefferson; B. M. Norman, New Orleans; W. Taylor, Point Coupee; Miles Taylor, Lafourche Interior.

Treasurer, Col. S. H. Henderson; Recording Secretary, T. B Thorpe; Corresponding Secretary, T. B. R. Hatch.

EXECUTIVE COMMITTEE:—Col. S. Henderson, Ch'm; —— McVey, James McCallop; Dr. Chambers; G. A. Pike; W. F. Tunnard; T. B. R. Hatch; C. G. McHatton; F. D. Conrad; Sosthene Allain; A. G. Carter, J. Kleinpetre.

2.—OUR SOUTHERN CLIMATE.

"But leaving out of the question" says Dr. Nott "cities, which I shall show have climates and diseases peculiar to themselves, and wholly different from the country which surrounds them, the climate of the gulf coast, including Florida, Alabama, Mississippi and Louisiana, is very imperfectly understood by persons at a distance. Although much has been written concerning the relation which exists between topography of southern countries and miasmatic fevers, all the laws and fine spun theories of book makers are put to flight by the facts every day witnessed in this region. Heat, moisture, animal and vegetable matter are said to be the elements which produce the diseases of the South, and yet the testimony in proof of the health of the banks of the lower portion of the Mississippi river, is too strong to be doubted—not only the river itself but the numerous bayous which meander through Louisiana. Here is a perfectly flat alluvial country covering several hundred miles, interspersed with interminable lakes, lagunes and jungles, and still we are informed by Dr. Cartwright, one of the most acute observers of the day, that this country is exempt from miasmatic disorders, and is extremely healthy. His assertion has been confirmed to me by hundreds of witnesses, and I know from my own observation that the population present a robust and healthy appearance. Why this is so, it is impossible to say; a country of this character on the Atlantic coast, would be almost uninhabitable by white population. The planters around Charleston, desert many places of more favorable aspect, in summer, and retreat to the city for health. The coast of Mississippi, Alabama and Florida, presents in many respects a different topography, and yet is considered a healthy country. In point of temperature this is one of the most agreeable climates in the United States, and the coast is dotted along the whole gulf with delightful watering places and summer residences, to which the population resort for health and pleasure; and yet whenever you build a town, even on a sandy desert, as at Pensacola, yellow fever springs up and attacks strangers, while the natives are exempt. Whether it be an endemial position of bilious fever or not, yellow fever comes with concentrated population, usurps the field and reigns with undivided sway."

PUBLISHING BUSINESS.

1. *Histoire de la Louisiana, par Charles Gayarre*, vol. II.—We have just received the second volume of Mr. Gayarre's History, of which the first volume appeared and was noticed by us during the last year. We have had time only to glance over the present volume, and propose to give it a more detailed examination at a future period. It contains an account of some of the most interesting events that have ever occurred in Louisiana, being, in great part, taken up with the cession of the colony from France to Spain, and the circumstances attending this change. The narration is minute, but always engaging; and the quotations from contemporaneous documents are numerous, giving us a deeper insight into the character of the chief actors than could be gained by any other method. We promise ourselves much pleasure in an attentive perusal of the work, and hope in our next number to notice it more particularly.

2. *Browne's Whaling Cruize and History of the Whale Fishery.* New York, Harper & Brothers. New Orleans, J. C. Morgan.—This is a very valuable work, and contains many of the most interesting particulars in relation to our fisheries now an important arm of American Commerce and cradle of our navy. The work contains numerous details, and many thrilling passages in relation to this most dangerous and adventurous of all lives,—that of the whaleman,—it contains also full statistics of the fisheries and of their history from the earliest period.

3.—*Letters on Astronomy, Addressed to a Lady.* By Dennison Olmsted, LL. D.. Yale College. New York, Harper & Brothers. New Orleans, J. B. Steel, 1847.—This is an elementary treatise on a beautiful branch of science, contributed in a clear and eloquent manner, by one who has enriched our country and our universities and schools, with some of the most attractive and practical works, upon the different departments of scientific knowledge.

4.—*The Flowers of Taste.*—

2.—*Hutton's Book of Nature.*—

3.—*Pictures of Every Day Life.*—By Mrs. Emma C. Embury.—These books are just issued from the press of Messrs. Harper & Brothers, of New York, and are to be found at the store of J. B. Steel. They are handsomely embellished and bound; the first contains flowers from Northcote, Æsop, La Fontaine, Cowper, Gay, and many others. The second, explains the geological, animal, vegetable and mineral kingdoms, solar system, etc.; the third presenting many moral and interesting tales.

5.—*Harper's Illuminated and Illustrated Shakspeare*, published in numbers.
Pictorial History of England, in parts, with 1200 engravings.
Leila, or the Siege of Grenada. By Bulwer.

These are also late from the press of Harper & Brothers. With the illustrated Shakspeare most of our readers are familiar. The illustrated history, however, is a new enterprise, deserving of all success, and it has reached the fifteenth number.

6.—*A Defence of Negro Slavery in the United States.* By Matthew Estis, of Mississippi. New Orleans, B. M. Norman.—This work discusses Slavery among the Jews, Slavery in the light of Christianity, African Slavery, Southern Slavery, Slave Trade, etc., etc., and is lately published from the pen of one familiar with the subject. Our space does not admit now of the elaborate notice which it is our intention to give it.

7.—Leonard, Scott & Co's. re-publication of
The London Quarterly Review.—
The Edinburgh Quarterly Review.—
The Westminster Quarterly Review.—
The North British Quarterly Review.—
Blackwood's Monthly Magazine.—

The above periodicals are re-printed in New York immediately on their arrival by the British steamers, in a beautiful clean type, on fine white paper, and are faithful copies of the original. The price at which they are re-published is but about one-third of that charged for the foreign editions, and while they are equally well got up they afford all that advantage to the American over the English reader.—New Orleans, J. C. Morgan

8.—*The Floral Year, embellished with Bouquets of Flowers drawn and colored from Nature. Each flower illustrated with a Poem.* By Mrs. Anna Peyre Dinnies.—This is one of the most elegant of the many beautiful annuals which, at the commencement of the new year burst in a swarm of loveliness on the literary world It will render this attractive volume still more interesting to many of our readers to be informed that the talented lady who has bound the "Bouquets" which it contains in wreaths of poetry, is now a resident of our city. Flowers are themselves poetry, living, breathing, glowing poetry; and the man or woman who is not susceptible to their charms should be subject to every poet's ban.

Mrs. Dinnies, the sole author of this volume, for unlike the generality of annuals, it is the production of a single pen, is already well known to the American public as the writer of many beautiful verses which we will "not willingly let die." Her illustrations of the language and moral of flowers in the book before us will increase her merited reputation. Like many of her fair sisters who have "woke to extacy the living lyre," she is the poet of feeling and affection, rather than of fancy, imagination, or passion. And surely these are woman's peculiar province. Here is not, perhaps, "the poets eye in a fine phrenzy rolling," but there is all of woman's gentleness, her susceptibility to beauty, her melting tenderness and her undying affections.

The "Bouquets" are beautifully grouped and colored, the binding of the book is singularly chaste and elegant; and altogether we know of no volume which the New Year has produced that could be better presented as a souvenir of friendship or love. It may be had of Mr. White, in Canal street.

9.—*The Bankers Magazine and State Financial Register.* Baltimore, J. Smith Homans. January number, 1847.—We are glad to perceive that this valuable work is gaining rapidly in public estimation and circulation. It contains the most important material upon the Banking System, State Finances, Currency, Life Insurance, etc., etc. Seven numbers have been published each manifesting an improvement on the last.

10.—*Our Exchanges.*—We have received Brownson's Quarterly Review for January, 1847, Boston, B. H. Greene; the Law Journal, Philadelphia, by J. J. Robbins; the Southern and Western Literary Messenger, for January, Richmond, Va., B. B. Minor, Editor and Proprietor; the North American Democratic, and Whig Reviews, J. C. Morgan, Agent; Simmond's London Colonial Magazine; Hunt's Merchant's Magazine; Skinner's Farmer's Library, for January; New Orleans Medical Journal; Charleston Medical Journal, etc.

March 1847

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NEW-ORLEANS.

THE

THE
COMMERCIAL REVIEW
OF THE
SOUTH AND WEST.

ESTABLISHED JANUARY 1, 1846.

J. D. B. DE BOW, EDITOR AND PROPRIETOR.

VOLUME III. MARCH, 1847. NUMBER III.

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THE

COMMERCIAL REVIEW.

VOLUME III.] MARCH, 1847. [NUMBER III.

Art. I.—DOMESTIC MANUFACTURES IN THE SOUTH AND WEST.

THE civil arts embrace the three great pursuits of agriculture, manufactures and commerce; and these are so intimately connected and interwoven, that in writing an essay upon one, we must necessarily have frequent reference to the others. They are the great civilizers of the nations of the earth, and where they flourish most there we may expect to find the highest state of moral improvement. As they spread and extend from country to country, they carry with them something of the minds of those who conceived and improved them. When the people of one nation adopt the pursuits of another, they must necessarily adopt the ideas and reasoning connected with those pursuits; and thus a sympathy is established between nations who were before strangers, and perhaps enemies to each other. By the intervention of commerce these sympathies are cultivated, and a community of interest is established which binds together the whole commercial world.

Hence it will be perceived that any important change which may be introduced in reference to either of these three great pursuits must be felt throughout the entire commercial circle; and the introduction of manufactures in the southwestern States, if prosecuted upon a scale commensurate with the resources of the country, will constitute a new era in the history of the civil arts.

In considering of the propriety and utility of introducing manufactures into any given district, it will be proper to take into view every circumstance that can in any wise affect the particular pursuit proposed for adoption. The character of the population, the climate, the soil and its products; the particular and relative location of the country, together with its mineral and other natural productions. All these and many other subjects will naturally present themselves for discussion and for consideration.

The population of the southwest, governed as it is by the peculiar institutions of the States in this region, constitutes the most prominent subject of consideration, and claims the attention of all who would desire to form a just opinion upon the subject of manufactures in this district. The free population of the south may be divided into two classes, the slave-holder and the non-slave holder. I am not aware that the relative numbers of these two classes have ever been ascertained in any of the States, but I am satisfied that the non-slave holders far outnumber the slave holders; perhaps by three to one. In the more southern portion of this region the non-slave holders possess, generally, but very small means, and the land which they possess is almost universally poor, and so sterile that a scanty subsistence is all that can be derived from its cultivation, and the more fertile soil being in the possession of the slave holder, must ever remain out of the power of those who have none.

This state of things is a great drawback, and bears heavily upon and depresses the moral energies of the poorer classes. Man requires encouragement,—the desired end must appear attainable, or he will in time cease to strive for it. So it is with these people; the acquisition of a respectable position in the scale of wealth appears so difficult that they decline the hopeless pursuit, and many of them settle down into habits of idleness, and become the almost passive subjects of all its consequences. And I lament to say that I have observed of late years that an evident deterioration is taking place in this part of the population, the younger portion of it being less educated, less industrious, and in every point of view less respectable than their ancestors.

Such a state of things should not exist in the present age in such a country as ours. It should be sufficient to challenge the attention and arouse the energies of the philanthropist and the patriot. It is, in an eminent degree, the interest of the slave holder that a way to wealth and respectability should be opened to this part of the population, and that encouragement should be given to industry and enterprise; and what would be more likely to afford this encouragement than the introduction of manufactures? Diversify the labor and pursuits of the country, and while many will be induced to enter upon these new pursuits and become industrious, enterprizing, and useful citizens, a market will be opened for the produce of the small agriculturist, who will also become stimulated to better his condition,—and not many generations will pass away before this portion of the southern population will rival their eastern neighbors in enterprize and industry.

By such a change the wealth and moral power of the southwest would be increased to an almost indefinite extent, the sources of human comfort would be greatly enlarged, and the liberal arts—the refiners of man—would abound in the land.

To the slave holding class of the population of the southwest, the introduction of manufactures is not less interesting than to the non-slave holding class. The former possess almost all the wealth of the country. The preservation of this wealth is a subject of the highest consideration to those who possess it. Wealth may be divided into two classes, *natural* and *artificial*. The natural wealth of a country consists of the soil forests, minerals, streams, etc. *Artificial wealth is that permanent accumulation of the products of human labor and skill which remains after the immediate and daily wants of the producer are supplied*, and whatever may be the skill and capacity of a community to produce the means of human comfort, this residuum must be regarded as the only true test of its prosperity. Labor, skill and capacity for producing do not constitute wealth in this sense of the term; they are merely the means of its acquisition. The capacity of producing may be very great, and much labor may be performed, and still an individual or a State may not increase in wealth. Nay, so far from it, examples may be found in our own country ot States having become poorer by a steady perseverance in an unwise application of their labor. Such is the case in the Atlantic States south of the Potomac, as I think will be granted by every intelligent and candid individual who is acquainted with the country, and I think it will be admitted that these States are poorer than they were twenty years ago. There is a small increase in the number of laborers, and there may have been something gained in skill, but the great source of all wealth in an agricultural country:—the soil, has been greatly deteriorated and diminished, and it may be affirmed without the fear of successful contradiction, that no country, and more especially an agricultural one, can increase in wealth while the soil is becoming more and more exhausted every year, for it is most clear that sooner or later an absolute state of exhaustion must be the result, and no wealth that could be acquired by the sale of those products, the growth of which had caused this state of things, could compensate for the loss of the soil.

Why is not the sandy pine barrens of these States settled and cultivated by a prosperous and intelligent population? It is certainly because the soil will not repay the laborer with bread. And when the once fertile hills and valleys of this region shall have been exhausted by an unwise and improvident system to the same state of sterility as the pine barrens, they likewise will fail to reward the laborer with the means of subsistence, and must be deserted and return to the same state of desolation; a state of desolation the more fearful because it speaks of better days, and forces upon the mind a mournful comparison between the present and the past, and upon the passer-by with all their force, the lines of Byron:

> "Such is the aspect of this shore;
> 'Tis Greece, but living Greece no more."

Although I do not entertain the slightest apprehension that this, the fairest and most deligetful region of our continent will ever be reduced to such a state of desolation, yet it may be safely affirmed that a continuance in the unwise and improvident system hitherto pursued, must, in time, produce the state of things alluded to.

It is said that evils sometimes cure themselves, and when man pursues a course of folly to the brink of ruin, necessity, sometimes performing the office of reason, warns him of the danger, and compels him to change his course. And if the people of the southwest do not voluntarily abandon their present system of applying all their labor to the production of a few agricultural staples, necessity will in time compel them to do that which the dictates of reason and common sense should long since have taught. This necessity has been operating for many years, but still the people seem resolved to disobey its mandates; for rather than submit to a change, they prefer to abandon the country of their fathers and of their own birth, and seek homes in other lands. This is abundantly proven by the census of the year 1840, whereby it is shown that the increase of the population of the whole United States in the ten preceding years, was about thirty-three per cent.; yet the increase in Virginia was but 2.19 per cent.; the increase of North Carolina 2.15 per cent; and of South Carolina 2.21 per cent. The ratio of Georgia was sustained, but for the reason that within that time a large area of new territory within her limits was being opened for settlement. That necessity must be strong and urgent which induces thirty-one per cent. of the population of a State in the short space of ten years, to break all the social and individual ties that bind man to the place of his birth, and seek his fortunes in other lands. It may be questioned, if such an instance of so large a portion of the population of any civilized community, has ever been known to emigrate in so short a period. I am aware that the great quantity of new lands which were brought into market in the southwest, operated as a great inducement to emigration, and under the circumstances of the case, constituted the principal inducement. But if the soil in the old States had been properly husbanded and kept up to its primitive state of productiveness, instead of being reduced to a state of sterility;—had manufactures been introduced and established, so as to give employment to the surplus labor that was not required in agriculture, this large drain could not have taken place. The capital invested in manufactures cannot be readily transferred from one country to another. In most of the leading branches the fixtures constitute a large part of the outlay, and cannot be removed without great loss, hence when capital is once invested in manufacturing it becomes permanently located, and gives permanency to the population. This view of the subject is sustained by reference to the State of Massachusetts. With a population proverbially enterprizing, and much more crowded than that of the southern States; with a soil originally greatly inferior, and a climate decidedly unfriendly to agricultural pursuits, she still shows an increase of twenty-one per cent. in her population, while in the same time Virginia, North Carolina and South Carolina, only show an increase of about two per cent. And it must also be remembered that within this same space of ten years a very large quantity of the finest lands in the northwest were brought into market; lands consisting of plains ready for the plough, located near the great thoroughfares of navigation, and a climate suitable to the agricultural habits of the New Englander. With such temptations and inducements to emigrate, it cannot be doubted but that as large a proportion of the population of Massachusetts would have changed their homes had it not been for the establishment of manufactures in that State. Owing to the establishment and encouragement of manufactures, Massachusetts has retained not only the wealth which has been produced by the labor and skill of her population, but she has kept her population at home, contented and prosperous, while Virginia and the Carolinas have been great losers in both. For when the agriculturalist removes he carries with him almost every thing which he possesses in the form of property, except his land, and that is usually so exhausted that it would not be worth transportation, even if it were as portable as bank notes.

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The loss of wealth and population is not the only evil attending this propensity to emigrate,—the moral and social condition of those who remain, as well as those who remove must ever be disturbed and more or less retardod in their advancement. This unsettled state of society prevents the establishment and encouragement of any permanent and efficient system of common schools. And here again by reference to the census of 1840, will be seen how disadvantageously these Southern States compare with Massaehusetts and other Eastern States upon this vital policy. In Massachusetts nearly ninety-nine out of every hundred persons over twenty years of age can read and write; in Virginia but about eighty-two out of every hundred; in North Carolina but about seventy-three out of every hundred; and in South Carolina but about eighty-two in every hundred adults can read and write.* Such facts as these, one would suppose were sufficient to arouse the attention of the citizens of the Southern States to an inquiry into the cause of their being so far behind the Eastern States in regard to education, and the general diffusion of useful knowledge among the poorer classes.

When a spirit of emigration prevails in a country, those who are under its influence cease to feel themselves as individuals identified with the community in which they live, they husband all their resources for the purpose of enabling them to remove and establish new homes; and they will not enter into any schemes for the improvement of either the moral or physical condition of the country which they have resolved to abandon. This influence extends far beyond the number who actually remove, for very many continue to consider their removal as probable, for many years together, who do not eventually emigrate; and thus their moral energies are paralyzed, and the country is deprived of their usefulness. Any change in the pursutts of the country that would allay this spirit of emigration, would constitute the beginning of a new and better state of things.

If manufacturers were introduced and encouraged, and the labor of the country sufficiently diversified, so as to give employment to every variety of labour and skill, the population would cease to look for new countries. They would then go to work in earnest to improve both the physical and moral condition of their own. The soil would be improved; more permanent and comfortable habitations would be erected; orchards and gardens would be planted and cultivated; and the country would be redeemed from its present wasted and barren condition. The desire, as well as the means of education would be increased, until there would be no adult freeman found in the land who could not read the constitution of his country. It is a principle in man's nature to regard with partial consideration the things of his own production. He who improves a barren soil to a high state of fertility, feels an interest in it that he could not enjoy by the possession of a soil naturally rich, and he who improves and embellishes his domain by the cultivation of orchards, gardens and other objects of taste and ornament, derives a pleasure from their use and observation which is unknown to the stranger; these things have been associated with the most cherished objects of his affections, until they have become inseparable; and hence the love of home and of country becomes a sacred principle in the human heart.

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* I have calculated these estimates from the tables in the American Almanac for 1842. I cannot answer for their accuracy, as but little reliance can be placed in the census of 1840.

Connected with this subject there is another class of the population of the southwest which claims much consideration. And here I may be permitted to remark, that in my humble opinion the institution of slavery in the United States, is destined to produce more extensive results in the improvement and amelioration of the condition of the human family than perhaps any other event that has happened since the christian era. Africa, sunk into a state of barbarism by reason of the unfriendliness of her climate, could never have been redeemed from her degraded condition in any other way than by transporting her children to some country where they could be brought in contact with civilization, and be made to learn its arts. This may appear to be a harsh mode of redemption, but who that is acquainted with the present moral condition of these people, can doubt but the race has been greatly improved by its transportation hither? And though not educated in the schools of literature, they are instructed in most of the substantial arts of civilization; and sufficiently enlightened to understand and appreciate the principles of the christian religion. There is perhaps no instance of a people in an absolute state of barbarism who have made greater advances towards a state of civilization in the same length of time than have the African race of this country.

Without the agency of slave labor, cotton for exportation would never have been grown to any considerable extent in the United States. It may be even doubted whether it would ever have been of sufficient importance to stimulate the inventive genius of Whitney to the construction of the cotton gin; and the primitive mode of extracting the seed by the fingers might have been handed down to the present generation to enliven the fireside of a winter's evening with a cotton picking frolic.

But with the aid of slave labor, the price of the raw material has been reduced to about one-tenth of its former value in the space of half a century; which in conjunction with the improvement of machinery, has also reduced the price of cotton cloth in an equal ratio. Thus putting it in the power of the poor of every country to procure clothing for at least one-tenth part of the former prices. If effects could be traced to their true causes, I doubt not but that it would be discovered that the improved condition of the poorer classes in every civilized country was as much indebted to the reduced rates in the price of clothing, as to any other one cause whatever. No physical want is so degrading to the human family as the want of clothing; nakedness and rags are the badges of poverty and degredation every where; in this condition man seems to lose all self-respect, and becomes the dependent and passive instrument of him who has courage to use him. But clothe him in comfortable and tasteful raiment, and you impart to him a new spirit; he holds up his head, looks his oppressor in the face and boldly demands his rights.

It is by the agency of slave labor also, that the United States have become the second commercial nation of the earth, and by the same agency they are destined ere long to become the first. But before this pre-eminent position can be attained, a division of this labor must take place and a portion of it must be directed to manufacturing purposes. The southwest will then as far outstrip every other country in the manufacture of cotton, as she has hitherto done in the growth of the raw material. This is a proposition that does not appear as yet to have been considered by the people of the southwest; but has evidently not escaped the consideration of the people of Great Britain. They foresee that if slave labor should be directed to manufacturing, that our cotton crop would no longer be sent to their mills; and if they should still continue to control the crops of other countries, they could not compete with the slave labor of the southwest; for we could under sell them in every market in the world, not excepting their own home market. Hence the interest which Great Britain and France evinced in relation to the annexation of Texas. It was their policy, and a wise policy on their part, to prevent the people of the United States from extending their territory over the fine cotton region of Texas; and thereby monopolizing much the greater portion of the profitable cotton growing district of the continent. Hence likewise the policy of England in becoming the champion of liberty in every part of the world; and though covered with the mantle of philanthropy, the disguise is too thin to conceal the true objects of her designs.

Cotton being the great and leading staple of the southwest, the manufacture of the raw material by the labor of this district becomes a subject of the first importance. And the first question is whether the labor and resources of this region are reasonably adequate to the end proposed. By reference to the census of 1840 it will be seen that the number of slaves then in the United States was about two million, five hundred thousand. This population doubles in about twenty-five years; thus in the year 1865 the slave population will be five millions, and in the year 1890 it will reach ten millions. This population cannot emigrate but must remain within its present limits. Any one acquainted with the country must be satisfied that so great a number of laborers cannot be profitably employed in agriculture, and long before the number reaches ten millions, the country will become so exhausted and occupied, that property in slaves must become of little or no value, unless some other than agricultural employment is found for them.

To one who is acquainted with the South-Western States, it is known that except in the State of Texas, nearly all the good and fertile uplands in the cotton region have been reduced to cultivation; and although there is a large quantity of the poorer uplands, and a considerable quantity of bottom land, that may yet be brought into cultivation, yet from the rapid deterioration of the lands now under cultivation, and the necessity of increasing the quantity cultivated in grain to supply the increasing population, it is fair to conclude that the cotton crop east, of Texas, has nearly reached its maximum; and that three millions of bales might be assigned as the limit. And allowing one and a half million of bales (which is probably too much) for Texas, we shall limit the cotton crop of the United States to four and a half million of bales. Now according to the most reliable data that I have been able to procure, it would require not exceeding seven hundred thousand laborers to spin and weave four million five hundred thousand bales cotton into plain cloth. The number thus taken from agricultural labor compared to the number of slaves estimated for the year 1890, bears so small a proportion to the ten millions, that it would scarcely be missed out of the field. The white population would afford abundant material for the supply of those branches of the manufactures that require education and skill. Thus it will be seen that in the article of labor, the country will afford it in the greatest abundance without at all interfering with other branches of industry; nay so far from it, by thus drawing off a portion of the labor, the price of slaves will be sustained and other industrial pursuits will be benefited by sustaining the prices of their products.

Thus, I think it must be admitted on all hands, that the article of labor is now abundant in the southwest; and for the reasons before stated, this abundance must increase more rapidly here than in any other country. And a further reason in favor of this proposition is found in the fact that in every other country a portion of the more prosperous laborers escape from the necessity of laboring, and thus keep down the increase; but every slave is a laborer, and must ever remain so, and so long as this population continues to increase, so long must the number of laborers increase.

Another important consideration connected with this subject, is the *price* of labor in the southwest. I have frequently heard it said that manufactures could not succeed in this country, owing to the high price of labor. A female operative in the New England cotton factories, receives from ten to twelve dollars per month,—this is more than a female slave generally hires for in the southwest. But without entering into a comparison of the present nominal price of labor in this and other countries, it is sufficient to say, that whatever the price may be, none can produce any given article as cheap with hired labor as *he* who owns it himself. In the latter case the labor is so much capital in hand, and it is not so much a question with the owner whether he can produce a yard of cloth, or any other given article as low as it can be produced in England or in Massachusetts, but whether by applying his labor to the production of the cloth, or other article, he can make it more profitable than he can by using it in agriculture. It matters nothing to him how low others can produce the article, he can produce it lower still, so long as it is the best use that he can make of his labor, and so long as his labor is worth keeping. It is upon this principle that the southwest is destined to monopolize the manufacture of the whole cotton crop of the United States. But I have heard it frequently asserted that the slaves were not sufficiently intelligent to make useful and profitable operatives in cotton mills; this is an assumption, as I believe, made by those who possess but little knowledge of the negro character. It is a fact well established that negroes learn blacksmithing, carpentering, boot and shoe making, and in short all the handy craft trades with as much facility as white men, and Mr. Deering, of Georgia, has employed slaves in his cotton factory for many years with decided success.

It would no doubt be true, that grown negroes taken from the field would be found awkward and clumsy in the labor of the cotton mill, but slaves put into the factories when young, and raised up to that employment, would make the most efficient and reliable operatives that could be found in any country. They would be efficient, because raised and retained at the same business throughout their lives, they would become most thoroughly capable: they would be more reliable, because they would have no right to prescribe the hours for working; there would be no striking for higher wages; and they would have no right to leave the employment at pleasure, as is the case with free laborers.

These would be eminent advantages in favor of those who employ this species of labor.

Another great advantage which this country possesses over all others in reference to the manufacture of cotton, is found in the fact that it possesses the raw material at prime cost; in most cases it would no doubt be delivered to the manufacturer at less cost than is now incurred in transporting it to the point of exportation. Thus the cotton would be delivered to the mills in this country for about an average of ten per cent. less than it could be delivered at Lowell, in Massachusetts. All other things being *equal*, this of itself would be an advantage that no country could work against for a continued series of years.

The southwest would possess also an advantage in the prices of provisions; this would be especially the case in the valley of the Mississippi. It is not at all improbable that the building of cotton mills in various parts of the country would stimulate the smaller farmers to grow provisions sufficient to feed the operatives, thus affording provisions as well as cotton at prime cost. But if this source should fail, the great bread and provision growing region, watered by the Mississippi and its tributaries, could furnish the operatives of the southwest with bread and other provisions at a much less cost than can ever be furnished to the operatives of New England.

Supposing fuel, water power, and other appliances necessary for carrying on the work to be equal to other countries, it cannot be doubted by any that the southwest can, if she will, monopolize the manufacture of all the cotton which she will or can produce.

But the people of the southwest should not, nor will they be satisfied with a monopoly of the article of cotton. This region offers immense facilities for the rearing of sheep; there are large districts of country in the south that have hitherto been considered as useless, by reason of their sterility, these are admirably adapted to sheep husbandry. They are generally the most healthy parts of the country, and if encouragement were given to wool growing, the non-slave holding part of the population would be furnished with a most pleasant and profitable pursuit. The lands would cost little or nothing, and with almost no means at all, any individual could in a few years get up a respectable flock. This would enlarge the capacity of the country to sustain its increasing population, and keep within its limits a physical and moral power necessary for the preservation of the peculiar institutions of the south,—a policy that should never be lost sight of by the slave holder. But an inducement must be afforded before these non-slaveholders can be persuaded to embark in this—to them—new pursuit. They are a class of men who possess but little enterprize or foresight, they are not over-fond of labor, and must be well convinced that they will be rewarded before they will agree to work.

The subject is one of sufficient importance to engage the attention of the Legislatures of the States, and if no better mode could be suggested we would submit the proposition of giving a bounty upon wool sufficient to stimulate its production. This, aided by a demand that would be created by the establishment of manufactures in the interior of the country, would give an impulse to this great branch of industry; one, in whatever light it may be considered, of the utmost importance to the country. This is a business that must necessarily have a small beginning, but sheep are of rapid growth and increase, and with proper encouragement, the growth and manufacture of wool would constitute a large item in the wealth and commerce of the country. It would very soon begin to stop the great drain upon us for coarse woollens, and blankets for negro clothing; these articles would be made with a view to the particular uses for which they were designed, and would therefore be better than those obtained from abroad.

The benefits to be derived by the non-slave holding part of the population would perhaps be of more importance than any other. By opening to them a profitable employment you give them the means of procuring wealth and moral respectability, and thereby raise up in the heart of the country a population which will be the pride and boast of the nation. Instead of emigrating out of your borders they will remain the physical and moral bulwark of southern institutions.

The same causes that favor the manufacture of cotton will bear upon the article of wool, but the south can never acquire the same monopoly in this as in the article of cotton. If, however, this district should prosecute the growing of wool to the extent of its capacity, and should only manufacture to the extent of its growth, the business would become of great importance, and would add much wealth to the community.

Iron is an article that abounds in many parts of the southwest, and is destined to constitute one of its great staples. Slave labor is peculiarly adapted to the production and manufacture of this article. The demand for iron is daily increasing throughout the civilized world, but in no part perhaps more than in the United States. It may be assumed that the system of internal improvements, by means of railways, will be adoptod throughout the entire country; the demand for this object alone will be large, almost beyond calculation. The introduction of coton, woollen and other manufactures, will also greatly increase the demand for iron. Add to these the increasing demand incident to the growth of the west for agricultural and other purposes, and it will be perceived that the production and manufacture of iron is scarcely inferior to any other branch of industry, and it should be the policy of the south, without delay, to use every reasonable means for the encouragement and development of this great source of wealth.

Cotton, wool, and iron, may be regarded as the three great staples of the southwest. But there is so close a relation between these and many other branches of manufactures, that the establishment of any one or more of them upon an extensive scale would draw after them others, perhaps, not thought of in the beginning; thus not only affording employment to all the labor of the country, but imparting value to all the natural products of the land. The minerals, the streams, and the forests, would all be found to be the great sources of wealth, and the possessor of many a barren spot would be surprised at his good fortune. But of all the classes to be benefitted by such a change the agriculturist would come in for the largest share, and it is for them and their interests that these important changes are proposed. The country and its destiny is in their hands; they have at their disposal more ample means of producing wealth and for the promotion of human comfort than has ever been bestowed upon any other land or people. They have reached an important crisis in their own history, and it would be prudent that they should take a retrospective view of the past, and examine their present condition for the purpose of enabling them to form a just estimate of the future.

In looking into the history of the south and southwest since the earliest settlement, we find that the almost entire labor of the country has been applied to agriculture, and that the surplus products have been, up to within a few years past, almost entirely shipped to foreign markets. The country seems to have labored under the impression that wealth could be acquired only by drawing it from other countries. Acting upon this principle they have gone on from year to year producing cotton, tobacco, and grain, for exportation, until their best lands have become exhausted, and they find themselves as poor in all the appliances of comfort as they were many years past. The price of the crops being returned to the country in articles of daily consumption, the proceeds of each years crop is consumed without leaving anything to be added to the wealth of the community. And the only increase to be found in the elements or means to procure wealth, consists of the increase of slaves, an increase in no way connected with the exportation of produce, but would have been the same, or in all probability greater, if all the produce had been consumed at home.

If one unacquainted with the present condition of the southwest were told that the cotton-growing district alone had sold the crop for fifty millions of dollars per annum for the last twenty years, he would naturally conclude that this must be the richest community in the world. He might well imagine that the planters all dwell in palaces upon estates improved by every device of art, and that their most common utensils were made of the precious metals; that canals, turnpikes, railway, and every other improvement designed either for use or for ornament, abounded in every part of the lands, and that the want of money had never been felt or heard of in its limits. He would conclude that the most splendid edifices dedicated to the purposes of religion and learning were every where to be found, and that all the liberal arts had here found their reward and a home. But what would be his surprise when told that so far from dwelling in palaces, many of these planters dwell in habitations of the most primitive construction, and these so inartificially built as to be incapable of protecting the inmates from the winds and rains of heaven; that instead of any artistical improvement this rude dwelling was surrounded by cotton fields, or probably by fields exhausted, washed into gullies and abandoned; that instead of canals, the navigable streams remain unimproved, to the great detriment of transportation; that the common roads of the country were scarcely passable; that the edifices erected for the accommodation of learning and religion were frequently built of logs and covered with boards; and that the fine arts were but little encouraged or cared for. Upon receiving this information he would imagine that this was surely the country of misers,—that they had been hoarding up all the money of the world, to the great detriment of the balance of mankind. But his surprise would be greatly increased when informed that instead of being misers and hoarders of money, these people were generally scarce of it, and many of them embarrassed and bankrupt. Upon what principle could a stranger to the country account for this condition of things? How could he account for the expenditure of the enormous sum of one *billion of dollars* in the short space of twenty years? Indeed, I think it would puzzle the most observing individual in the country to account for so strange a result.

It is true that much has been paid for public lands within this period of twenty years, but the price of two crops would more than cover that account. The purchase of slaves and private lands should not be taken into the account, because the money paid for these should have remained in the country, except that portion paid for the slaves purchased out of the cotton region, which is inconsiderable when compared to the number brought into it by emigrants; and as to the natural increase of the slaves in the cotton region, that has no relation to the subject.

What, then, has become of the other nine hundred millions of dollars? Much of it has been paid to the neighboring States for provisions, mules, horses, and implements of husbandry; much has been paid for clothing and other articles of manufactures, all induced by the system of applying *all* or nearly all the labor of the country to the production of one staple only, and by neglecting the encouragement of manufactures. No mind can look back upon the history of this region for the last twenty years, and not feel convinced that the labor bestowed in cotton growing during that period has been a total loss to this part of the country. It is true that some of the neighboring States have been benefited to some extent, and it has served to swell the general commerce of the nation; the manufacturer of the raw material has given employment to foreign capital and to foreign labor, and has also served to swell the volume of foreign commerce. But the country of its production has gained nothing, and lost much;—it has lost much because it has not kept its relative position in the rapid march of improvement which marks the progress of other countries, and more than all, in the transportation of its *produce*, it has transported much of the productive and essential principles of the soil, which can never be returned, thereby sapping the very foundation of its wealth.

No country has ever acquired permanent wealth by exporting its unmanufactured products. And if any such case could be found in history the experience of the southwest would furnish satisfactory testimony that the exportation of the commodities produced here, tends rather to impoverish than to enrich the country. With the experience and the lights of the past before them it would seem to be madness to persevere in a course so detrimental to their interest. If when the prices of the leading staples were much better than they are likely to be for the future, and when the lands were more fertile and productive than now, this system proved unprofitable and ruinous, what hope is there that the result of the future will be better? Nay, is it not quite certain that each succeeding year will accelerate the progressive deterioration until a state of irredeemable ruin will ensue?

The time has arrived when this subject should be brought to the consideration of every individual in the country, and all the facts bearing upon it should be collected and stated with fidelity. If the legislatures will not move in this work, let societies be formed for the purpose of collecting facts, and collating them for public use. Let a survey and census be taken of some of the older States, showing the quantity of land now in cultivation, compared to the quantity cultivated of some given period that has passed; the quantity of land that has been cultivated and now abandoned by reason of its exhaustion; the comparative productiveness of the soil now in cultivation, with the soil formerly cultivated, also the quantity of productive soil not cleared and brought into cultivation; and the capacity of the State to increase its productions, either of cotton or grain.

Let it be shown also what number of the inhabitants are non-slaveholders, and the prospects of this class in regard to their future condition in the country. Let facts be also collected in regard to the minerals, forests, water power, and the number of laborers that might be spared from the field without detriment to the agricultural pursuits. Add to this all proper facts connected with the cost of erecting buildings and the purchase of machinery for manufacturing both cotton and wool. Let the number of hands and the cost necessary to produce any given quantity of fabric be ascertained, and cause the whole, when properly and fairly digested, to be published in the most popular form, that they may be read by the whole community. Such a collection of facts would afford more light upon the subject of political-economy than all the books that have been written upon the subject from the time of Adam Smith, to the present day.

To the foregoing might be added another class of facts that would go far to explain what has become of a large portion of the money that has been earned by the labor of the south and southwest,—I mean those facts connected with the transportation of the raw material to a market, and the amount of the manufactures composed of that raw material, that has been returned to and consumed by the producer. This is a branch of the subject that should be carefully inquired into, and stated in terms that could be understood by all. It should be separated, if possible, from all political considerations, so that the mind of every individual may be free to act on it without prejudice. It is a self-evident proposition, that the transportation of an article adds nothing to its intrinsic value. Its volume, quality and properties remain the same as they were before the act of transportation. A barrel of flour or pork transported from New Orleans to Liverpool contains no more nutriment, nor can it contribute more to the support of human life and comfort in Liverpool than in New Orleans. Now it will be perceived that if this flour and pork should be consumed in Liverpool by one who is employed in the manufacture of cotton cloth, and this cloth should be sent to this country to be consumed by the cotton grower, and the cloth could have been manufactured here with the same amount of labor as at Liverpool; then the whole of the time, labor, and capital employed in the transportation of the cotton, flour and pork to Liverpool, and the re-shipment of the cloth to this country is a clear loss, at least to the United States.

The only objection that can be raised to this proposition is predicated upon the assumption that the labor employed in the manufacture of the cloth in this country might have been more profitably employed in agriculture. So far from this being the case, however, the interest of the agriculturist would be promoted by withdrawing this labor from the field, and to that extent keeping down the over production of the raw material. The capital, skill, and labor employed in this transaction are not only lost to this country but to the whole human family; for as it has been shown that nothing has been produced by the operation, the volume of those things necessary to human comfort has in no way been increased. In making this assertion, we do not forget that those employed in this transportation have been supported by their labor, but this does not alter the case, for as their labors were unproductive, it would have been the same to the balance of the world if they had raised the amount by contribution from the producer and consumer of the articles transported. This is the great evil under which the southwest labors. She is yearly wearing out her soil in the production of one great staple, which has become ruinously low in price by reason of its great supply: she parts with this staple at prime cost, and purchases almost all her necessary appliances of comfort from abroad, not at prime cost, but burthened with the profits of merchants, the costs of transportation, duties, commissions, exchange, and numerous other charges, all of which go to support and enrich others at her expense. This is the true reason that she is growing poorer while the rest of the world is growing rich, for it is easy for the world to enrich itself from such a customer on such terms.

If she were wise she would cease to carry on a traffic in which she always has been and always must be a loser; she will set up for herself, and instead of parting with the products of all her labor to support the balance of the world, she will manufacture her own clothing, and not stopping at this, proceed to manufacture the whole of her crop, and thereby draw upon the world for a portion of her former losses.

If the proper statistical information could be obtained, we have no doubt but it would be found that the capital and labor expended by the southwest in the transportation of its cotton, and the return of the manufactured article for consumption within the last twenty years would amount to a sum sufficient to erect buildings, purchase machinery, and put into successful operation a sufficient number of cotton mills to manufacture all the cotton that she grows.

Supposing the south should be convinced that she has hitherto pursued an erroneous and ruinous policy, and resolves to change, an important inquiry then arises in regard to the source from which the means can be obtained to enable her to introduce in a reasonable time the contemplated reform; upon this head it may be observed that a change in the policy of a country which involves so many important and vital considerations should be introduced gradually, so as to prevent sudden revulsions from taking place in the long established pursuits of the community. The beginning should be small, so as to prevent the outlay of too much capital at a time when it would be difficult to procure the requisite number of skilful operatives to make the investment profitable. But notwithstanding the change should be gradual, yet a well digested system of increase and enlargement should be adopted in the beginning, and never departed from.

Let such planters as are desirous of the introduction of manufactures instead of investing the nett income of their crops in land and slaves, appropriate it to the purposes of manufacturing, and by uniting the surplus means of a number together, an association might be formed with sufficient means to commence the work in every important district in a very short time. Instead of sending their young slaves to the field, send them to the cotton mill to be instructed as operatives. If such a course were adopted and adhered to, every year would add accelerated strength to the enterprise. The manufacturing establishments would soon begin to support themselves. Every year would bring an increase of operatives to the mills, and by adhering to a system like this a few years would insensibly produce a change that would astonish mankind, and this too without lessening the agricultural products of the country, or doing violence to any of the established pursuits of the community. By adopting a course like this the whole scheme could be carried out upon the means and resources of the southwest, the establishments would go into operation free from debt and incumbrance, and all the profits would belong to the country, free from the demands of foreign capitalists. Two hands employed in the mills could spin and weave the cotton produced by three, this would add about two hundred per cent. to its value, which would be a clear gain to the country. I assume it to be a clear gain, for the reason that I believe in a few years the cotton crop, in its raw state, would bring as much money to the planters and the country at large as it would have done providing this system had not been introduced. It would, in time, be the means of affording a home market for all the cotton produced, this would make the market price more permanent and satisfactory; for the reason that the price would not depend upon and be influenced by so many contingencies as at present. The character of the crop, and the amount of stock on hand could always be estimated. This would, to a great extent, prevent the spirit of speculation which has so often prevailed in regard to the article of cotton, and which has ever been attended with most disastrous consequences. In a word, we should control the cotton trade of the world, and would have it in our power to establish the prices at rates that would always be remunerating to the producer of both the raw material and of the manufactured article.

In contemplating the results of these propositions, they appear more like air-built castles than substantial effects flowing from or produced by adequate causes. But at the risk of being pronounced a dreamer, we will take a glance at some of the results which may reasonably be expected from the introduction of manufactures into the south-west. And first of all, the value of the cotton in case it should all be manufactured in the country, will be increased at least two hundred per cent.; and instead of fifty millions of dollars, we shall produce annually one hundred and fifty millions, and if the crop should ever reach four and a half millions of bales, and the prices of the raw material and the manufactured articles should range as at present, the annual produce would amount to the enormous sum of three hundred millions of dollars per annum. Thus the article of cotton alone, to say nothing of other productions, would, to use a figurative expression, establish the centre of gravity for the commercial world in the south-west.

Instead of being drained of her substance by every other people, the current would be reversed; and wealth would flow into her coffers from all the nations of the earth; then indeed, her planters might dwell in castles, upon estates improved, and embellished by every device of art; the exhausted and abandoned fields would be reclaimed and redeemed from sterility; her swamps would be drained, and her rivers confined within their banks, with great advantage to the health of the country; the facilities of travelling and transportation would be improved and enlarged to an extent commensurate with the utmost demand; and the South and Southwest would become what by nature and the aid of art they are destined to be; the richest and fairest portion of the whole earth. But the benefits of such a change will not be confined to the South-West, every other part of the country will participate in her prosperity, and more especially the West, and North-West. This mighty region which will ere long number fifty millions of human beings, must be most intimately connected with the southwest, whether in prosperity or adversity. The southwest is the legitimate market for the bread, provisions, and stock of this region. The northwest could be supplied at cheaper rates with all the articles of manufactures produced in the southwest, than she could be from either New England, or any foreign market; for this one reason if no other, that the transportation would be cheaper, and for the further reason that by purchasing in the market where she sold her own produce, much would be saved in the way of exchange and commissions.

It may be asked, where could a market be found for the enormous quantity of fabrics to be produced from four millions five hundred thousand bales of cotton. By reference to the ratio of the increase of population in the United States, it will be found that our population doubles in about twenty-four years; and assuming that we have twenty millions now, our population will amount to eighty millions in the year 1896; a period that will arrive within the lifetime of many men who are now thirty years of age. This increase of population will be quite equal to the increase in the growth of cotton; and we shall continue to have perhaps about the same quantity for exportation to foreign countries that we export at present; but this quantity being greatly increased in value by being manufactured, our external commerce in this article will be more than doubled, while our internal commerce will be enlarged almost beyond human conception; for the closest investigation cannot at present discover the many new sources of commerce, which will from time to time, develope themselves in a country so new, and so extensive as the United States, and especially the great western division.

In every point of view (save that it affords no revenue to the government) the internal commerce of the country is vastly more important than the external, or foreign commerce. The capital, labor, and skill employed in the transportation, belongs to the country, and constitutes a portion of its wealth; and the profits derived from the transportation, as well as the commissions and profits of the dealers in this commerce, all go to the support of our own citizens. By establishing manufactures in the country, a market will be afforded for many articles which from their perishable nature, or owing to their great weight or bulk, compared to their value, cannot become the objects of a foreign or distant commerce. Many articles of this class would be found profitable to the producer, and highly convenient and useful to the consumer. But at present for want of a demand, this source of employment, comfort and wealth is lost to the country.

In this class of products may be mentioned the products of the forest, summer fruits, hay, potatoes, and many other articles produced at a considerable distance from towns and navigable streams. Every manufacturing establishment would open a new market and become the centre of a commercial circle; and by changing these perishable and heavy articles by the process of consumption and reproduction into a more permanent and valuable form, they would be made suitable to enter into a more distant commerce. And thus employment would be given to labor, and all the means of comfort and of wealth would be produced in districts hitherto lying waste and unproductive. In a government like ours in form, extending over so large a country, a country so strongly marked and divided by its physcal conformation, and diversity of climate, it is of great importance that every encouragement should be given to internal commerce. By promoting this great interest, the local and provincial prejudices, always so liable to grow up between districts having but little intercourse are prevented. Each portion of the country will be made to feel its dependence upon the other; a community of interest will be established, and a general sympathy pervade the whole nation as one family. Thus our political institutions will be greatly strengthened, and many of the causes which have hitherto disturbed the harmony of the country will cease. Our population will become more Americanized. In throwing off our dependence upon other countries for the supply of our physical wants, we shall become more independent in our manners and modes of thinking, and the same great causes which give us the control of the commerce of the world, will enable us to impress upon other nations our manners and customs. The spirit and philosophy of our political institutions will follow our commerce wherever it prevails; and more than all, under the guidance of providence we shall through the agency of our supremacy in foreign commerce, do much to establish the christian religion throughout the earth.

Possessing a territory extending from the Atlantic to the Pacific, with Europe and Africa on the east and south-east, and Asia and Australia on the west and south-west, and our coasting trade from east to west, passing all around South America, we occupy a position upon the globe, which plainly indicates our superior advantages over all other nations of the earth. But these advantages must be cultivated and improved, or they will not be available in giving to our country that proud pre-eminence over all others, that she is capable of attaining. The first step towards the attainment of this object is the encouragement of manufactures; by which means we shall not only render ourselves independent of all other countries for the supply of most of our wants, but we shall soon begin to afford large supplies to other nations. In using the term *encouragement*, I have no reference to that kind of encouragement which may be given by the acts of the general Government by a protective tariff; that branch of the subject belongs to the statesman; and with him I desire to leave it. But I mean that kind of encouragement which it is in the power of the people to give, simply by a division of labor. This is the great principle which lies at the foundation of the whole subject. Experience shows that every agricultural product that can be successfully produced in the United States, can be increased far beyond the demand; this in time reduces the prices so low that it checks the production; and the demand for labor being also checked, much labor is thrown out of employment; and it has been the case for many years, that there has been an over production of all the leading staples at the same time, leaving in the country very many individuals without adequate and constant employment. This is a great evil; it is not only a source of individual suffering, but greatly endangers the safety and morals of society.

From my own observation, I am satisfied that within the scope of my acquaintance, I have perceived more unhappiness arising from the want of constant and profitable employment, for five years past, than from all other causes put together. If the pursuits of the country were sufficiently diversified this evil would be removed. It is not in the power of the laborer who is out of employment to introduce new pursuits; he is destitute of the means to enable him to do so. But when it is discovered in any district of country that from over-production the leading pursuits fail to remunerate the labor engaged in them, some other pursuit should be introduced to an extent that would relieve the established pursuits from over-production. This could be effected throughout the country by the formation of agricultural societies in every county, whose duty it should be to collect all proper information connected with the labor and products of the country, and whenever it was ascertained that any pursuit was becoming unprofitable by over-production or other causes, it should be their further duty to procure information in regard to a substitute, and when a substitute should be selected and adopted, the means should be raised to aid in its introduction. In this way a great variety of employments would in time be established, greatly to the benefit and advantage of the whole community. By this means many new sources of employment and wealth would be discovered and developed, and more permanency would be imparted to the standard value of the old established pursuits; and revulsions would consequently become less frequent.

Such is the nature of the *encouragement* required for the introduction of manufactures and a division of labor; it is that kind of encouragement which is derived from the sympathy and countenance of society; for without this encouragement, nothing short of great capital and indomitable industry and perseverance will secure success to any new enterprise. The community must first be enlightened upon the subject; the public mind must be convinced by facts and arguments, and old prejudices removed, before it can be brought to sympathise with any scheme which proposes a change in the established pursuits of the community. There is a spirit of conservation in business, as well as in morals and politics, which is ever upon the watch, and prompt to condemn every innovation; and wo! to him against whose projects these conservatists prophecy. They have much pride of opinion, and if they predict a failure they will labor to sustain their judgement by every means short of violence. Success would implicate their judgement and foresight, and conseqently they have something at risk; they denominate the innovator a castle-builder wanting in judgement, and pronounce his schemes visionary and impracticable. By such practices the unfortunate projector is brought into disrepute; he looses the confidence of the community, and without great pecuniary and moral resources he must fail; and with his failure the cause in which he engages is injured.

Let it not be said that prophecy has ceased. There are many prophets in the land, whose predictions a wise man will not disregard; for they prophecy evil, and set themselves at work to produce the result. Hence the importance of preparing the way for the introduction of manufactures by enlightening the public mind by every practicable means. The public prints are not sufficient; the living minds of the people must be brought to act upon each other by and through the agency of associations: and without this no sympathy can be diffused among them upon this great subject, and no concert of action can be effected.

Before the public mind can be prepared for the encouragement of manufactures in the southwest, it must be taught a new system of private and political economy. Under the present system the opinion generally prevails that nothing but money constitutes wealth; and many seem to suppose that the best test of prosperity is indicated by the gross sum for which the crop is sold, with but little reference to the cost of its production. In all my acquaintance, I have met with very few planters who estimated the depreciation of their soil as anything in the cost of producing a crop, notwithstanding they were every few years compelled to purchase land to supply the place of that which they had worn out. Those who act upon this system rarely ever do anything to improve their land; are unwilling to appropriate sufficient labor to the production of a sufficient supply of grain and provisions; and never doubt the proposition that if they can buy an article cheaper than they can make it, that it would be great folly to produce it themselves. This proposition appears plausible in theory, and might be true perhaps, if the true cost of producing the article could be correctly calculated; as well as the inconvenience of procuring a supply from abroad, and the detriment to business arising from the want of an abundant and constant supply, with many other considerations which are rarely brought into the estimate. But however plausible the theory may appear, it is quite certain that it is deceptive and unsound; or the calculations of the cost of producing, and purchasing the supply, are not correctly made. For except in some peculiar locations, and under peculiar circumstances, experience has proven that the system is almost universally ruinous in practice. This is a strong illustration of the necessity of a division of labor, even upon a single plantation. For the application of all the labor of the plantation to the production of one staple, is a violation of this principle, which seems to be a law of nature governing all her works.

The variety of soil, of climate, of mountain and plain; and in fine the great variety of human capacity and of human wants, all indicate the observance of this principle. And when civilized man shall cease to observe it, he must return to his primitive state of barbarism; and even then he cannot exist, without in some degree conforming his pursuits to this principle. Labor is man's destiny upon earth; none can escape from it in some form or other; nor have they the moral right to do so. Neither have any part of the human family the natural right to appropriate to themselves more than their share, to the exclusion of others.

By a law of man's nature, a certain amount of bodily exercise is made necessary to the development of his faculties, and the enjoyment and preservation of health. This exercise was not intended to be wasted in unprofitable persuits; but was designed to be appropriated to the production of things useful to human comfort, and to the improvement of man's condition. It is only by such an appropriation, that civilized man has emerged from a state of barbarism; and by such means only, can a state of civilization be sustained; for when that requisite quantum of human exercise which is necessary to sustain health, shall be wasted or thrown away upon unprofitable objects, the advance of civilization must not only be checked, but it must suffer decay, in a ratio commensurate with the waste and misapplication of human exercise. Although man was undoubtedly designed, and constituted for a state of civilization. it is nevertheless an artificial state, and must be governed by human laws; and among other civil rights it is most clear that the laborer should be protected in the enjoyment of his honest acquisitions.

It is also clear that for the purpose of defining and securing civil rights, that the natural wealth, consisting of the soil, the forests, minerals, &c., should be appropriated, and become the objects of individual property and control. By keeping these propositions in view ,we must perceive that in time, as the population of a country increases, and new generations spring up, a portion of the people must be destitute of either natural or artificial wealth, and are necessarily dependent on those who possess the wealth of the country for employment and support. Now, if we suppose that all the established and known peasants of the country are fully supplied with labor, and no more can be admitted without endangering the means of existence to those already employed, then that portion of the population who are so unfortunate as to be out of employment, must starve or emigrate; and thus a limit would be fixed to the increase of population. This is not a mere hypothesis, for history affords many instances in point. This result can be prevented as long as new pursuits can be introduced that will reward the laborer with the means of subsistence. If, in such a case, a part of the corn produced was sent to another country to buy clothing, and this clothing could be made by the surplus and unemployed labourers at home, it is quite plain that such a change would afford relief to the extent of the corn thus retained in the country. Or, if a country in such a condition procured corn from abroad by the exchange of its manufactures, which were produced to the full extent of the demand, if some other article of manufacture could be produced, which could be exchanged for corn, this would likewise afford relief to the extent which such manufacture could be exchanged. In this case it will be perceived that the principle upon which the relief is founded, is the withdrawing of the employment of foreign labour, and increasing the demand at home by the introduction of new pursuits. By thus dividing the labour of a community, and diversifying the pursuits, provision may be made for an almost indefinite amount of population. And the conclusion naturally follows, that the more divided and diversified the pursuits, the more diversified will be the intelligence of a community; for every new pursuit brings with it the science or knowledge connected with it, thus redeeming the laboring classes from ignorance, as well as from poverty.

This is an important consideration in a government like ours, which is founded upon the intelligence and virtue of the people; these constitute not only the basis, but the superstruction also; these are improvable qualifications; and with proper culture and encouragement may be perpetuated throughout all time, and so long may our free institutions abide. But suffer these to fall into decay and the republican government of the United States must cease to exist, except in history, where it will be pointed out as a splendid failure in an effort made by a few philanthropists to redeem man from ignorance and tyranny.

The foregoing views have been more particularly applied to the Atlantic and Gulf States, which may be denominated the cotton region; but in their general application, they are intended for the whole of the slave holding district of the Union. Kentucky, Tennessee, Arkansas and Missouri may be denominated the provision and iron region of the southwest. From the character of their climate and soil, their agricultural pursuits are more varied; they cannot be said to have any decided and fixed staple, except in some small districts, and consequently as their population increases, they will more naturally diversify their pursuits. Situated between the south and the north, their location is a most happy one for the destribution of their great leading products; and when our population shall reach eighty or a hundred millions, as it must before the present generation shall all have passed away, the middle states will become the richest and most interesting portion of the Union; the great internal commerce of the Union will find its centre here, and cities and markets will be established, equalling, and perhaps surpassing those situated upon the sea coast. Besides the article of provisions, this region will be able to produce and manufacture the articles of iron, hemp and tobacco cheaper than they can be any where else produced; and by reason of advantage of location, these articles can be distributed in every direction as from a common centre, with less cost of transportation to the consumer. Here likewise will centre the arts and refinements of civilization, which will give the distinctive tone and coloring to the American character. Such predictions may appear rash to many, but before they are condemned as visionary and false, I respectfully invite an attentive examination of the map of the United States, with a careful enquiry into the natural resources of each and every state and territory east of the Rocky mountains. After such an examination, let it be imagined that the valley of the Mississippi, including Texas, contains a population of one hundred millions, and that two-fifths of this population is situate west of the Mississippi river, and I think it will be admitted that the eastern cities can no longer control the commerce and finances of this mighty region; and this is a state of things not so remote but that many now living may realise it, for in seventy years from this time, if our population should continue to increase at a ratio equal to the seventy years past, it will reach over one hundred and fifty millions. Such is the destiny that awaits the southwest, if her population should have the foresight and wisdom to improve the means that nature and her peculiar institutions have placed in her power. But if she blindly adheres to her old system of applying all her labor to the production of but one, or a few articles; thereby exhausting her natural wealth and receiving nothing that is substantial and permanent in its stead; she must loose all the advantages of her position and of her vast resources, and the eastern states must continue to increase their manufactures until they shall monopolise both the raw material and the fabric. And thus, the absurd system of transporting the raw material to a great distance, at a great expense, to get it manufactured, will be perpetuated. And a bushel of corn grown in the west for ten cents, must continue to be sent to the east at the cost of from thirty to forty cents, to feed the operatives; and after giving employment to the eastern population, and paying a large profit on eastern capital, and to eastern merchants, the manufactured article will be returned to the west, charged with transportation and other expenses, to be consumed and paid for in part with corn at ten cents per bushel, and other western produce at corresponding prices. The whole process is so absurd and preposterous when fairly stated, that we can scarcely believe in its present existence, although the whole country is engaged in carrying it on every day.

There is another consideration connected with the perpetuation of this system. As the lands become more and more exhausted in the older and more northern parts of the slave-holding districts, slave labor will become less and less valuable; it will therefore press south and southwest, and their places will be filled by white laborers, thus insensibly narrowing the limits of the slave district, until the whole of this population will be crowded into a comparatively small area in the extreme south. This result of all others should be avoided if possible by the slave holders; for it would in every way tend to lessen the value of their property, and would sooner or later verify the prediction of the eccentric statesman of Roanoke, that instead of the slaves running away from the master, the master would run away from his slaves. As the country fills up with a more crowded population in the non-slave holding states, free labor by degrees will press upon the northern limits of the slave holding states, and gain a footing within its borders. This will be a different race from the southern non-slave holder; these will be people who are enured to habits of industry and enterprise; they will bring the means to purchase the worn out fields, and they will go to work to restore them to fertility by their own industry and skill; they will not use slave labor, and all the land thus purchased and occupied, will be so much taken from the occupation of slaves; for it may be safely assumed that when the slaves have once progressed south, they will never return to the north again.

This process has already commenced, and some of the northern counties of Virginia are beginning to attract the attention of their northern neighbors, whose settlement here will no doubt be beneficial to this particular district. But if this emigration should become considerable, it must in time greatly effect the value of slave property in the south.

Thus I have endeavored to suggest to the public mind, such arguments as have occurred to me upon this important subject. I have endeavored to show, that the agricultural system hitherto pursued in the south and southwest, has proved ruinous to the country by exhausting the soil, and thereby rendering it every year, less and less capable of producing the appliances of human want and of human comfort; and that it has a tendency to divide the population into two classes, widely differing from each other in many important respects; that to these and other causes, must be assigned the reason of the small increase of the population of the older southern states for the ten years preceding the year 1840; and the great want of education among the poorer classes. On the other hand, I have endeavored to show some of the effects which may be expected from the introduction of manufactures into the southwest; among which I have supposed that the moral condition of the people would be improved, and that by diversifying the employments of the country, the means of human comfort would be greatly increased, and that all classes of the population would share in these benefits; that the value of the exports would be greatly enlarged by the process of manufacturing, and that instead of a constant drain from the country of the products of all its labor and soil, that wealth would flow into it from every part of the world. I have called the attention of the south and southwest to the rapid increase of labor in this region, and the necessity of finding profitable employment for it; and have taken the liberty of suggesting a plan of introducing manufactures by degrees as well for the purpose of preventing a shock to the established pursuits of the country, as to avoid the creation of a state of indebtedness. These with various other topics I have desired to impress upon the mind of the people of the southwest. Many of these topics are no doubt familiar to many; nor could they be otherwise to those who reside in the country; but we sometimes become familiarized with evils until we cease to observe them, and in such cases a friendly suggestion may be useful. My principle object in this essay, has been to arrest the attention of the people of the southwest, and to invite them to the consideration of a subject intimately connected with their prosperity. My conclusions may not in every instance be correct, and although they would seem to be fair deductions from the facts stated, yet the unforseen events and changes which time alone can reveal, may produce results very different from those which I have supposed. Be this as it may, the amelioration of the condition of the human family is among the great duties of man, and to promote this object we are called to act upon the lights before us; we are not permitted to penetrate the future, and to predict with certainty, the result of any human policy. Nevertheless, it is our duty to march onward, guided by the lights of reason and experience, trusting the events to an overruling providence.

If this humble effort should in any way be the means of directing the attention of the people of the southwest to the subject of manufacturing, and of inducing them to examine the several topics which I have endeavored to present for their consideration, I trust that individuals possessing more capacity, as well as more time and means for procuring correct information, will take the matter in hand, and afford to the country the benefit of their talents and observation. It will be in the power of such individuals to confer a lasting benefit upon the country, and place their names among those of its benefactors.

Art. II.—GEOLOGY OF THE MISSISSIPPI VALLEY.[*]

First Period.—General Inundation.

> "In the beginning God created the heavens and the earth,
> And the Spirit of God was moving upon the face of the waters."
>
> Genesis.

1. During this period the briny ocean covers the whole Valley of the Mississippi, and the United States, rising over 4,000 feet above the Cumberland, or Wascioto Mountains, and 5,000 feet above the limestone region of Kentucky and Illinois. The Oregon and Mexican mountains alone rise above the waters in North America.

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[*] Continued from February Number Commercial Review, p. 124.

2. The ocean gradually decreases by the decomposition and the consolidation of the waters in the formation of rocks and in the deposition of *strata*. The rate of this decrease can only be conjectural, and is in point of time immaterial. "The ocean subsides to 3,000 feet" above its present level.

3. The parallel strata are formed in the following order, or nearly, viz: 1. Lime stone. 2. Slate. 3. Sand stone. 4. Free stone. 5. Grit. 6. Pebble stone. They are not always superincumbent, nor co-existent, but are generally horizontal, except the four last toward the Cumberland mountains, which having probably a granite *nucleus*, have compelled the incumbent *strata* to become obliqual, or slightly inclined from ten to thirty degrees.

4. By the operation of sub-marine volcanoes, the *strata* of coal, clay and amygdaloid are formed and intermixed at various intermittent times with the above *strata*.

5. Several mineral, such as flints, quartz, calcedony, onyx, ovulites, marls, barytes, iron, lead, pyrites, &c., are successively formed and embedded, or alternated with the pro-eminent strata.

6. *Creation of Sea Animals*, such as fishes, shells, polyps, &c. The exuvia of many pelagrie animals become buried under or within the strata, where they are found at this time. They belong, principally, to the genera of *terebratula*, *gonotrema*, *orthocera*, *encrinites*, *pentremites*, *astrea*, *millipera*, *cyclorites*, *mastrema*, *favosites*, *&c.*

SECOND PERIOD.—EMERSION OF MOUNTAINS.

1. "The primitive ocean recedes or subsides to the level of *fifteen hundred feet* above the present ocean. The Alleghany, Laurel, and Cumberland ranges of mountains, in the shape of three long islands, are elevated from five hundred to one thousand feet above the ocean. Other peaks and knobs east and west of the Cumberland island, rise to the height of three or four hundred feet above the ocean, forming an archipelago. On the west, at the distance of nearly eight hundred miles, the ocean is bounded by a shore for two thousand miles in extent, surmounted by lofty ranges of naked sand hills rising in the distance to the height of nearly two thousand feet. These were the present elevated black hills which stretch east of the Rocky Mountains, and terminate in the immense sandy plains extending five hundred miles eastward from the mountain base. At this time the heavy tides and the copious rains furrow these new lands and form valleys through the soft sandy strata, while around the eastern archipelago the schistoze formation proceeds under water.

"2. *Vegetation begins;* grass and reeds grow; springs appear; streams begin to flow and gradually increase in length as the land extends, but decreases in volume and depth by the gradual excavation of the valleys."

Scholium.—During this period, the Missouri river may have advanced its channel to the vicinity of the "Great Bend," above the White Earth river, and nearly a thousand miles below the mouth of the Yellow Stone. The Platte and the Kanzas may have extended their channels each a thousand miles to their confluence with the ocean, near the present western limit of the State of Missouri; the Arkansas and Red River may each have advanced their deep gorges nearly one thousand miles to the same recipient, in the vicinity of the western boundary of the present Indian territory. At the same time the isolated mountains of "James' Peak," "Long's Peak," and "Pike's Peak," each towered nearly eight thousand feet above the waters. At this period the Mississippi river, even to its source in Itasca Lake, had no existence, its very fountain heads being covered by the ocean.

During this period also, vast marine eruptions, salses and up-heavings were in active progress in the northern parts of Canada, with strong ocean currents sweeping towards the south, by which the great abysses of Lakes Superior, Michigan, Huron, and the Georgian Bay, were excavated, and the fragments of rock and commingled earths disgorged from the bowels of the earth, were swept by ocean currents towards the south and west, spreading the granite boulders over all the regions south of Lakes Michigan, Erie and Ontario, and depositing the drift formation over Ohio, Indiana, Illinois, and westward to the Missouri river, gradually terminating on the south in the tertiary formation which extends southward to Natchez and Baton Rouge, bearing in its commingled deposits the carcasses and skeletons of the enormous denizens of the first green earth of a former northern world.*

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* A great portion of the level country west and south of Lake Michigan as well as south of Lakes Erie and Ontario, and also westward to the Mississippi, presents a drift formation composed of earth, sand, comminuted shale and gravel, underlaid by a deep stratum of rounded pebble stones and coarse gravel of limestone, quartz, granite, etc., reposing upon limestone rock strata. And this strata in Illinois is chiefly fossiliferous limestone, especially nearest the surface. The prairies south and east of Lake Michigan are strewed with innumerable large and small granite boulders, either imbedded on the surface or buried beneath. The same soil formation exists over a large portion of the State of Missouri, of Wisconsin and Iowa Territories, and as far south as Tennessee. The tertiary formation begins in Missouri and extends through a portion of Arkansas and Louisiana, and the southern portions of Mississippi and Alabama.

Such may have been the condition of this portion of the Mississippi Valley when the fountains of the "gread deep," nearer the arctic regions "were broken up" and chaotic fragments and the plastic earths were swept towards the equator.

THIRD PERIOD: EMERSION OF THE TABLE LANDS.—"There is a *further diminution or recession of the sea*, until its level is reduced to *eleven hundred feet* above its present level, when all the table lands and high lands of the secondary formation become uncovered.

2. *An inland or fresh water sea remains*, over the limestone basin of the Ohio, and covers parts of the states of Ohio, Indiana, and Kentucky, below the mouth of the Scioto. This sea is bounded on the south and west by Muldraugh's Hill, which is the actual ascent to the table lands of Kentucky, and on the east by the Knob-hills of Kentucky and Ohio, and on the north by the Silver Hills of Indiana.

3. Another inland sea, or bay, fills the present basin of the Cumberland river, bounded on the north by the Green River hills, and on the south by the Cumberland mountains, but open to the west where it unites with the great inland sea which extended three hundred miles west of the present channel of the Mississippi.

4. The upper Cumberland sea is drained, and the Cumberland river flows from its upper valley to its "falls," near which it empties into the Gulf of Cumberland.

5. The Allegheny river flows into the limestone sea below the present mouth of the Monongahela, and forms a narrow strait, extending to the great inland sea below the Silver Hills of Indiana.

6. Green River forms its upper valley, so does the Kentucky, Salt river and Licking river. All these streams and their branches excavate deep vallies through the half-indurated strata.

7. The knobs are formed like downs on the shores of the limestone sea; Muldraugh's Hill is shaped like a wall by the currents, being formed chiefly of slate schist.

8. Sea animals are still living in the limestone sea, and their exuvia become imbedded in the last limestone schist.

9. The *creation of land animals;* insects, reptiles, birds, and quadrupeds on dry land.

10. *Vegetation increases;* a thin soil is formed; trees and shrubs begin to grow, and form forests. These succeed the mosses, reeds, grasses, and maritime plants produced in the second period."

Scholium.—During this period the highest table lands and ridges near the sources of the Allegheny river, as well as the undulatory regions of western Pennsylvania, and the northeastern portions of Ohio, and the dividing ridges which give rise to all the streams flowing northwardly to the great lakes and southwardly to the upper Mississippi, were from one to three hundred feet above water; the Alleghany and Monongahela discharged separately into the limestone sea, in the vicinity of the present city of Pittsburg; the Ohio river had no separate existence; the upper Mississippi may have opened its channel for about 900 miles to its confluence with the limestone sea, near the present Falls of St. Anthony. The Missouri may have extended its valley channel to the limestone sea in the vicinity of Council Bluffs; the Arkansas may have advanced its course not less than 1500 miles to its confluence with the limestone sea, west of the present state of Arkansas.

Lake Erie, Huron, and Michigan had no separate existence, being alike beneath the surface of the general ocean. Lake Superior may have possessed a separate outline of more than double its present extent, and having its surface only sixty or one hundred feet above its most elevated highlands. At the same time all the larger tributaries of the upper Mississippi had opened channels from one to three hundred miles in length.

FOURTH PERIOD: DRAINING OF THE LIMESTONE SEA.—"1. The level of the primitive ocean has gradually subsided to about *seven hundred* feet above the present level. The limestone region in the valley of the Ohio, Cumberland, Tennessee, and upper Mississippi rivers are mostly drained, but are full of marshes, muddy swamps, licks, and marl salses, &c. The Ohio river, as, also, its larger tributaries, the Kentucky, Licking, Cumberland, and Tennessee, excavate their vallies through the soft muddy lime strata which become indurated after a long lapse of time."

2. The plains and glades of the Cumberland gulf are drained, and the sea recedes west to the alluvial gravel hills formed under water, between the present Cumberland and Tennessee vallies.

3. The alluvions and bottoms begin to form in the vallies and gulfs, by the attrition of the strata and soil conveyed and deposited by the streams.

4. *Animals and plants increase and spread*; the *sea animals* become gradually *extinct*; while the *land animals multiply* their individuals and species.

5. Some ponds and small lakes are left over the land: the sinks and caves of the limestone region are formed. A soil is formed by the decomposition of *strata* and the decay of vegetable substances.

6. *The creation of mankind* in Eden, in the highlands of Asia.

Adam, or Admo, or Adimo (first man) and Eve or Evah, life, were the parents of the primitive or antedeluvian nation, called the Adamites.

"7. This *fourth period* answers, therefore, to the *sixth day*, or period of the general creation: the first and second periods of creation having produced the light, suns, stars, planets, and the earth, with her primitive crystallized mountains, rising from ten to thirty thousand feet above the present ocean, besides the burning mountains, volcanoes," &c.

Scholium.—At the same time the Mississippi river may have advanced its channel, and excavated its valley through the soft *strata* as far as the Des Moines river. The Missouri, advancing its channel nearly a thousand miles from the Great Bend, may have excavated its valley as far as the western limits of the present state of Missouri, having received the confluence of the Platte and Kansas from the west. The Arkansas may have excavated its deep valley as far as the highlands near Little Rock, while its turbid floods were depositing beyond its mouth the alluvial matters which now constitute the Pine Bluffs, thirty miles below Little Rock.

The northern portions of the States of Mississippi and Louisiana at this time may have emerged from the waters to the elevation of one or two hundred feet, giving origin to the sources of the Yazoo and Tombigbee, Black Warrior and Cahaba, and to the head streams of the Washita, St. Francis and White-River. At the same time Lakes Superior, Huron and Erie assume their present outline, while Lake Michigan presents no definite shape, being continuous with the inland sea, which still occupied the lower valley of the Mississippi, and covered the Illinois valley. Lake Ontario is concealed beneath the general ocean.

During this period we may presume the rivers and water-courses flowing from the higher regions continued to deepen and extend their channels, sometimes excavating deep mountain gorges by the constant operation of running water and the disintegration of the rock strata, aided by the combined operation of heat and cold.

FIFTH PERIOD.—NOAH'S FLOOD.

"1. This is the great flood of Noah, Nuh or Nahu, in the eastern continent, and which may have reached America, but it has left no traces of any such violent convulsion in the valley of the Mississippi. The organic and human remains buried in the soil are all in gradual depositions.

"2. In the valley of the Mississippi, the ocean, which we suppose yet remained over the southern or lower portion of it, now subsides gradually to *three hundred feet* above its present level, and forever abandons the upper valley, forming merely a gulf in the lower valley or delta of the Mississippi.

3. The great northern sea of North America, which had included all the lakes, and had extended from the upper Mississippi to the Gulf of St. Lawrence, is gradually drained. The upper lakes receive their present forms; Ontario appears; and the *Niagara cataracts* commence.

4. South of the upper valley, the Gulf stream which covered the lower valley, deposited the alluvial ground extending from Louisiana to New York.

5. All the valleys of rivers, and their principal tributaries, receive their present shape.

6. The *strata begin to consolidate;* the ponds and marshes decrease, but salses or muddy volcanoes increase; vegetation overspreads the soil, and animals multiply; earthquakes are frequent, and some strata are deranged by them."

SIXTH PERIOD.—PELEG'S FLOOD.

"And his name was called Peleg, for in these days the earth was divided."
GENESIS.

"1. Great volcanic eruptions of the sea, in Europe, America and other places, with awful earthquakes, convulsing the Atlantic Ocean, the West Indies, Mediterranean and other seas, destroying many countries and nations of men."

Scholium.—The remains and indications of these awful volcanic disturbances are abundant throughout Europe and America. They are predominant in all the coast and islands east and south of the Mexican Gulf and the Carribean Sea; and also in eastern Pennsylvania, Virginia and in the southern portion of Europe. *Salses* existed in the sea which covered the southern half of Mississippi and Louisiana, and extended as far as the central portion of the present State of Arkansas, where a principal volcanic vent existed, as may now be seen in the volcanic formations distributed in the hills of Arkansas upon the head waters of the Washita, and near the Hot Springs. At this time the underlying gravel strata in Mississippi and Arkansas were thrown to the surface through the sand and loam strata, where it is still exposed on the elevated hills and knobs.

"2. The ocean acquires its present level, and the American continent its present shape.

"3. The strata become indurated rock; the soil becomes firm and solid; lakes disappear; springs diminish; streams decrease in volume; and evaporation being less extensive, rains become less heavy and overwhelming.

Scholium.—During the previous periods, all the elevated portions of the valley which first emerged from the waters under the action of the deluges of rain which prevailed during the period of the drainage and consolidation of the strata were deeply furrowed and excavated by enormous floods, until deep gorges and wide valleys were often excavated near the sources of rivers.

"4. *Huge animals* ramble over the soil, of monstrous shapes and aptitudes; such as the Mammoths or Mastodons, enormous Elephants, Megalonyxes, Megatheria, (great bears,) Elks, Buffaloes, Jaguars, &c. Some of them becoming extinct, have left their bones in great numbers near the salt licks, such as Big-bone Lick, Drennon's Lick, and many other places within the limestone region of Kentucky, Tennessee and Missouri, whence they remain buried in mud or ancient alluvions."

Scholium.—The same kind of enormous fossil remains are found in similar tertiary formations and alluvial deposits throughout the Mississippi valley, from near Council Bluffs, on the Missouri, to the ancient alluvions of Mississippi, and Louisiana; and throughout the great delta, at elevations varying from 800 feet above the Gulf of Mexico, to the alluvions of Attackapas not 20 feet above tide.

During this period the whole valley south of the mouth of the Ohio emerges from beneath the waters; the united floods of the upper Mississippi, Missouri, and Ohio rivers advance and open the reservoir channel, a thousand miles further to the receding ocean; and swallowing in its course, the tributary floods of the Arkansas, Red River and Yazoo, each of which, with other smaller streams, extend their channels to their confluence with the common reservoir.

Since this epoch, the alluvial deposits carried down by the Mississippi may have filled up the shoal water near the sea shore, and formed all the lands which are now formed south of the last bluffs near Baton Rouge on the east, and those of Avoyelles and Oppelousas on the west.

Such are the probable revolutions and physical changes in North America, by which the great valley of the Mississippi has been formed, and has received its present condition and surface. In the fullness of time Columbus appeared, and America smiled.

America may possibly be a *new* continent, when compared with the eastern hemisphere; but for untold ages it has been subject to those great physical changes, which we have briefly sketched. These are changes which have been progressing for geological ages, and which in a greater or less degree will continue to operate until time shall be no more.

The records of history may point to a small portion only of these changes, which have been effected during the annals of the human race; but the science of modern geology, the records of God himself, indicate the vast and awful revolutions which have taken place before man was installed the lord of creation.

It may not be irrelavant to enumerate a few of the changes which are known to have taken place in other portions of the globe since man became the recorder of his own history.

The Caspian sea has receded from the extensive plains along its northern shore.* The Baltic has retired from the marshy plains of Prussia, near its southern coast. The Red sea has retired from the plains of Zehema in Arabia, and the village of Moosa, the former sea-port of Mocha, in less than five centuries has been left by the sea at the distance of five hours travel, or nearly twenty miles. The Nile has encroached upon the Mediterranean, and pushed forward its *delta*, not less than fifty miles within the records of history. The island of Tyre has been joined to the main land, by a hand more mighty than Alexander's. The Meander has filled up the bay into which it once discharged its waters, forming a fine alluvial valley gained from the sea. † Many islands in the Grecian Archipelago have changed their shores and made new connexions. The town of Adria, once a sea-port, from which the Adriatic takes its name, is now nearly twenty miles from the sea shore. ‡ Ravenna, almost in modern times, when the seat of the Western Empire, was a sea-port with a fine harbor. This harbor is now filled up, and beautiful fields extend three miles, from the site of the former city to the sea shore. The site of the ancient city of Ephesus is now indicated only by its ruins, which are separated from the sea by a marsh three miles in extent; the Ceyster has filled up its former fine harbor. Other gradual changes of equal importance, have taken place in the western portion of the European coast.

On the other hand, the sea has made many encroachments upon the land. Waters have burst forth from the bowels of the earth: cities, towns, and whole districts of country have been sunk and overwhelmed. The Zuyder Zee was once a small lake, discharging its waters by the river Flevum, of Tacitus, or the more modern Ulic. But, about the year 1250, the sea made an irruption into it, and vast tracks of land were sunk, forming the present Zuyder Zee, which is nearly three hundred miles in circuit. The Gulf of Dollart, in Prussia, was a fertile and populous canton, covered with delightful meadows and cheerful hamlets, as late as the thirteenth century.

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* Vide Malte Brun's Universal Geology, vol. 1, p. 441 to 446.

† Vide Crichton's History of Arabia, vol. 2, p. 133.

‡ Malte Brun, vol. 1, p. 442-3.

The sudden and gradual changes thus produced in the relative condition of land and water, upon the seashore may be illustrated by the following extract from an Arabian allegory of the thirteenth century.* The allegorical personage is *Khidz.*

He discourses as follows, viz: "I passed one day by a very ancient and wonderfully populous city, and inquired of one of its inhabitants, how long since it had been founded? 'It is indeed a mighty city,' replied he, 'we know not how long it has existed; and on that subject our ancestors were as ignorant as ourselves.' Five centuries afterwards, as I passed by the same place, I could not perceive the slightest vestige of the city. I demanded of a peasant who was gathering herbs on its former site, how long it had been destroyed? 'In sooth, a strange question!' said he, "the ground here has never been different from what you behold it now.' Was there not of old, said I, a splendid city here? 'Never, answered he, so far as we have seen, and never did our fathers speak of any such to us.' On my return there, five hundred years afterward, I found the *sea in the same place*, and upon its shores was a party of fishermen, of whom I inquired how long that land had been covered by the waters? 'Is that a question, said they, for a man like you? This spot has always been what it is now.' I again returned five hundred years afterward, and the sea had disappeared. I inquired of a man who stood upon the spot, how long since this change had taken place, and he gave me the same answer I had received before. Lastly, on coming back again after an equal lapse of time, I found a flourishing city, more populous and more rich in beautiful buildings, than the city I had seen the first time, and in the distance was seen the city of the dead, with its tombs, monuments and mausoleums rising over the ashes of departed generations until it vied in extent and splendor with the living city; and when I would fain have informed myself concerning its origin, the inhabitants answered, 'We are ignorant how long it has existed, the origin is lost in a remote antiquity, and our fathers on this subject were as ignorant as ourselves."

Such is the allegorical illustration, which opens to our view the successive revolutions that may have preceded the present condition of any portion of the habitable earth.

I shall conclude this subject with a few remarks relative to the prospective rank which this region is destined to hold in the scale of population, wealth and commerce. Only a few years since, and this immense and fertile region was almost uninhabited, except the river coast, for one hundred miles above and below New Orleans, and a few isolated settlements more remote.

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* A Ms. codice entitled "Wonders of Nature," by Mohammed Kazwina. See Lyall's principles of Geology, vol. 1, p. 36.

A large portion of the delta was considered an immense useless waste of inundated lands, unexplored and uninhabitable, except by the indigenous beasts and amphibious monsters. Now it is known to be an immense region of fertile alluvion, adapted to the sustenance of a dense population, and the production of all the necessaries; and most of the luxuries of civilized life. It is rapidly peopling with numerous bands of hardy and enterprising pioneers, who are daily employed in exploring every unknown recess, every bayou and lake, with a zeal and industry unexampled in history. It does not require the spirit of prophecy to foretell, that in less than half a century the valley of the Mississippi will be the Egypt of North America.

Art. III.—THE LOUISIANA OUACHITA REGION.*

The historical sketch of that part of Louisiana known by the name of Ouachita, cannot be expected to be of any very great interest, independent of that which results from its relation to our general history. It is circumscribed within narrow limits, and up to the time when the first Spanish commandant was sent by his government to form a post out of the few scattered inhabitants whose sole occupation and pursuits were hunting, there exists no written record relative. For its earliest settlement by Europeans, resource must be had to oral tradition, which, correct as it may be, necessarily leaves much to be desired for certainty and accuracy.

When the French first located in Louisiana and at Natchez, it appears that a settlement of some importance was formed by them on the shores of Lake Louis, within the tract of country now known by the name of Sicily Island, in the parish of Cataoula. There have been and are now, occasionally, found French axes and other tools, cannon balls, and even mill-stones, all evidently of French manufacture. According to a dim tradition confirming the inference, it is very probable that this settlement was made by the French, and one of the earliest made by them in the country; it appears to have been abandoned when the massacre by the Natchez Indians took place.

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* This contribution was prepared for the purpose of being read before the Louisiana Historical Society, and by their invitation. It is published for general information, and in order to stimulate, if possible, similar efforts from other parts of the State. Service such as this our country must ever appreciate.

There can be but little doubt of the knowledge those early settlers had acquired of the Ouachita river and of the land in its valley; the names given to some prairies and bayous seem to indicate it, such as Prairie De Lay, Prairie du Manoir, Prairie Chatelrau, Bayou de Siard, etc. No appearances exist, however, of their having then settled on the banks of the Ouachita, though they might have visited that country during their hunting excursions.

A few years before a permanent *post* was established by the Spanish government, the country was thinly inhabited by hunters and their families; they were mostly Canadians and Louisianans, from Point Coupée and other settlements on the banks of the Mississippi; a few Spaniards were scattered among them. They could not be called cultivators of the soil, small fields of Indian corn (maize) being the utmost extent of their agricultural pursuit.

In the year 1781 or 1782, John Filhial was the first commandant appointed by the Spanish government, sent up expressly to form a settlement, establish a *Post*, etc., at the most suitable place on the Ouachita river, and collect there and in its immediate neighborhood, the families scattered over the land. He settled, at his arrival, near a place called Ecore à Fabri, now Cambden, in the State of Arkansas, distant two hundred and twenty miles from and above Monroe. After having remained there four or five years endeavoring to gather around him a few families of hunters, he came down to Monroe, where he permanently settled and established the *Post* of Ouachita, to which he gave the name of Fort Miro. That spot being in a very eligible situation on the banks of the river, it was before known to the hunters as Prairie des Canot, it being their common rendezvous, from which they dispersed in search of game, then extremely abundant, and returned to descend to New Orleans, where they found a ready market for their peltry, bear oil, tallow, and even the buffalo meat, which was known in the city by the name of Viande de Chasse. The last buffalo seen in the neighborhood of Fort Miro was killed in 1803. A herd of about one hundred and fifty remained near the Bayou Saline, in Arkansas, about one hundred and fifty miles above Monroe, where, being surrounded with settlements, they were all destroyed in 1807 and 1808.

The territorial limits of the jurisdiction of the commandant of the Post of Ouachita were not precisely ascertained or defined,—a matter of small importance when the population was so thin that the country could hardly be said to be inhabited, and was well entitled to the appellation of wilderness. That jurisdiction was, however, claimed, and some time exercised over part of the now State of Arkansas, as far as the Hot Springs near the Ouachita river, distant about four hundred miles from Fort Miro, and over what now forms the parishes of Union, Morehouse, Carroll, Ouachita, Franklin, Jackson, and part of the parishes of Madison, Tensas, Catahoula and Claiborne.

Besides the first settlement at Fort Miro, there were four or five families, French, who inhabited the banks of the Ouachita river, about sixty or seventy miles below that fort at a place called Prairie du Manoir and Prairie Brin d'Amour, subsequently named the lower settlements, now in the parish of Caldwell. At the mouth of Little river, situated where that stream uniting with the Ouachita and the Tensas rivers, forms what is called Black river, but which is in fact a continuation of the Ouachita, a solitary settler, a European French, kept a valuable ferry, on the main route through which great numbers of horses and mules passed on their way to the banks of the Mississippi in search of a market. From that ferry to the Father of Rivers, the country was a desert.

The population of Ouachita can hardly be said to have increased until the years 1795 to 1797, when the Baron de Bastrop introduced several families according to his contract with the Spanish government. These were Irish, Germans, and some French families who came with the Marquis de Maison Rouge under a contract nearly similar to the one with Baron de Bastrop, alluded to before. Since Louisiana became a member of the Union, the number of the inhabitants of Ouchita has greatly increased; it is now, 1847, three times as large within the present very narrow limits of the Parish, as when under the Spanish government it covered the area of ten fold its present size, and included the parishes before named, which have successively been detached from it.

The large Spanish grants of land in this section of the State, although designed to forward the settlement of the country, have effectually retarded its progress. Had those grants been public lands, or the validity of their titles been decided on as early it might have been done, the greatest part of the arable lands would have been cultivated ere this, and the population and wealth of the country proportionally increased.

The Agricultural pursuits of the first settlers were, as stated before, extremely limited; as the population increased, and the reward of the toils and labor of the chase diminished in proportion to the yearly diminution and the further removal of the wild inhabitants of the forest, the cultivator of the soil gradually replaced the hunter. The first cotton planted was in 1800; the first gin built in 1801 and 1802. The quantity exported did not exceed from 100 to 500 bales until 1809 or 1810. It was greatly augmented from the time when that most important of modern inventions, the application of the power of steam to navigation, rendered the exportation of the products of the soil so much cheaper and easier. At present about six thousand bales are made within the narrow limits of the parish of Ouachita, and the whole extent of country formerly enclosed within its old boundaries yields probably more than one fourth part of the cotton raised in the whole State; for it includes a large portion of the best land, in the climate the best adapted to the culture of that great staple of the South.

When this country was first settled by Europeans, there were no Indians claiming a right to the soil; none but parties of hunters of the Choctaw, Arkansas or Caddo nations were met with; no fields or patches of corn, no wigwams were to be seen, nothing but the rude camps of the hunters were occasionally discovered in the forest.

About fifty families of the Choctaw nation had, however, obtained permission from the Spanish government to settle on the hills about 20 miles west of Fort Miro: they left that place, yet known as the Indian Village, upwards of twenty years ago.

No doubt, however, can exist but many years, nay, centuries before this country was known to Europeans, some Indian nation had inhabited it. The great number of mounds, *tumuli*, met with in so many different situations, from which are dug out Indian pottery, human bones, places it beyond the possibility of a doubt. Some of these mounds are much higher than those far more numerous which appear to have been made for their habitation, and were most abundant in prairies, where they seem to have been placed with some attempt at regularity. The largest mounds vary from fifty to one hundred feet high.

One of the largest is at the mouth of Little River, called by the Indians Etac-oulow, or River of the Great Spirit, which has been changed, or rather crippled, into Cataoula, the present name of the parish through which it runs. Might it not be inferred from this *quasi-tradition* that these high mounds were temples similar to the *Theocalis* of the Astecs, and the small ones the houses or huts of those extinct aborigines, built of mud and earth, which time easily reduced to their present shape, and that the unknown nations which inhabited this country before the present races occupied it, had some affinity in their customs and religious rites with the ancient Mexicans.

Note by the Editor.—The Ouachita region of Louisiana includes that portion of the State for the most part which is northward of Red River. Many parishes have been established out of it, one of which has taken the same name. In relation to the Ouachita river, we take the following from Judge Martin:

The Ouachita has its source in the territory of Arkansas, in the Rocky Mountains. In the vicinity of its head waters are found the celebrated warm springs. It runs almost parallel with the Mississippi. At the mouth of the Tensas, Little river or Catahoula river, arrives from the west. The Ouachita, running between the two, takes their additional supply at the same place, in its course, but there loses its name: from this place to its junction with the Red River, during a meandering course of about sixty miles, it assumes the name of Black river, an appellation probably derived from the colour of the soil through which it runs; the fertility of which often induced emigrants to settle on its banks: but they are too low, very few years elapse without seeing them inundated; they are now deserted. Many bayous empty their waters into Black river, all rising in the Mississippi swamp, and at high water communicating with that noble stream. The largest is bayou Crocodile, which comes out of lake Concordia; when its current is considerable, the largest kind of canoes have navigated it to Black river.

The Ouachita is navigable for steamboats of any burthen during six or eight months in the year, as far as the town of Monroe, a distance of about two hundred and forty miles from its mouth, or as it is there called, the mouth of Black river. Steamboats of upwards of one hundred and fifty tons have ascended it more than two hundred miles above Monroe. From its mouth to the Mississippi, the banks of Red river are low, and during high water offer nothing to the eye but an immense sea covered with forests.

The plains of the Ouachita lie on its east side, and sloping from the bank, are inundated in the rear by the Mississippi. In certain great floods, the water has advanced so far as to be ready to pour into the Ouachita over its margin.

On approaching towards bayou Lowes, which the Ouachita receives from the right, a little below its first rapid there is a great deal of high land on both sides of the river, producing the long leaved pine.

At the foot of the rapids the navigation is obstructed by beds of gravelly sand; above the first rapid is a high ridge of primitive earth, studded with abundance of fragments of rocks or stone which appear to have been thrown up to the surface in a very irregular manner. The stone is of a very friable nature, some of it having the appearance of indurated clay; the rest is blackish from exposure to the air; within, it is of a greyish white. It is said that the strata in the hill are regular and might afford good grinding stones.

On the west part of the river, lies a considerable tract of land, granted in 1795 by the Baron de Carondelet to the Marquis of Maison Rouge, a French emigrant who proposed to bring into Louisiana, thirty families from his country, who were to descend the Ohio for the purpose of forming an establishment, on the banks of the Ouachita, designed principally for the culture of wheat and the manufacture of flour.

This tract was two leagues in width, and twelve in length, traversed by the river.

The town of Monroe stands on the side of the Ouachita, and at high water is approached by large steamboats; but the navigation is interrupted during a great part of the year by many shoals and rapids. The general width of the river to the town is from eighty to one hundred yards. Its banks present very little appearance of alluvial soil, but furnish an infinite number of beautiful landscapes.

A substance is found along the river side nearly resembling mineral coal; its appearance is that of the carbonated wood described by Kirwan. It does not easily burn, but being applied to the flame of a candle, it sensibly increases it, and yields a faint smell resembling that of gum lac, or common sealing wax.

Soft, friable stone is common, and great quantities of gravel and sand are upon the beach: on several parts of the shore a redish clay appears in the strata of the banks, much indurated and blackened by exposure to light and air.

The land above the town is not very inviting, the soil being poor and covered with pine wood.

About thirty-six miles higher up, is bayou Barthelemy, on the right. Here begins Baron de Bastrop's grant of land, by the Baron de Carondelet in 1795, obtained nearly on the same terms as that of the Marquis de Maison Rouge; It is a square of four leagues on each side; containing about one million of acres.

Art. IV.—ON THE CRYSTALIZATION OF SUGAR.

In the art of sugar making, no part of the various processes now in use among us, attracts more general interest than that of crystalization. This is the key-stone of the arch, upon the perfection of which the whole work depends, but towards which very little research seems to have been given. Not unmindful of the importance of the proper classification and evaporation of the cane-juice, both of which operations are equally essential to be well performed, we come to the concluding act in sugar making, with more of anxiety for its success than perhaps any preceding. Upon the size, quality, and color of the grain, depend its marketable value. By its appearance only is it known elsewhere than where made, and it is carried from the plantation to the markets at large where no endorsement of its character will enhance its value.

Certain qualities are attached to the two great varieties of sugar, the large grain and the small; that each is hard or soft, dry or moist, and moreover its affinity for moisture, upon which depends its durability, and to one great consumer, the Refiner, its intrinsic value for re-crystalization.

Pure sugar is white and inodorous, and its solid forms somewhat variable, are generally cubes with dihedral summits, but the use of vacuum, evaporators of different shapes has recently been discovered to have a definite influence upon the shape of the crystals, and remains a phenomenon of the manufacture yet unexplained, concerning which no satisfactory theory has been advanced. The purity of the saccharine however, seems in this respect to be independent, but it is doubtful if the crystals are as permanent in any other shape as in cubes. Under primary examination of the chemist by the famous instrument of Dr. Wallaston, the goniometer, the purity of the crystals of sugar, therefore, cannot be obtained, and the researches of science hitherto, have produced no test for their value but the effects of their destruction in the common operation of fermentation. But as an ordinary rule, we discover that the strongest and best sugars are those which approach most nearly to the form of perfect cubes of sharp angles, hard and not readily soluble in water of low temperature. Weak sugars of minute crystals are soft, breaking easily by compression, have rounded surfaces, and chiefly without angles, moist, and readily soluble.

On plantation, the crystalization as to its result, is found to depend primarily on the quality of the juice; secondly on the treatment it receives. In sour juice, or frosted canes, the saccharine is known to be destroyed. Fermentation, the first stage of change, is the progress of a certain portion of sugar into its watery and gaseous constituents, which is not within the order of nature, or the power of art to restore. The peculiar influence to produce change which the points of congelation and ebulition in the scale of temperature possess, is very little comprehended, and will ever remain a mystery to be solved only when the atomical construction of the universe shall be further explored. The theory of atoms, the doctrines of chemical affinity, attraction and cohesion, are but unsatisfactory solutions of the phenomena of forms—and last of all, the polarization of atoms, which apparently affords explanation, is as yet a pathless field of research, of whose existence the world has but recently learned. The changes of form, to which all matter is subject, are exceedingly various, and create surprise to observe how few are permanent. The evolution or combination of gasses, may give rise to a liquid or a solid; and these apparent elements so pure, take new form, arrayed in color. No uniform relation has hitherto been traced between the color of a compound and that of its elements. Iodine whose vapor is of a violet hue, forms a beautiful red compound with mercury, and a yellow one with lead. The brown oxide of copper gives rise to green and blue colored salts; while the salts of the oxide of lead which is itself yellow, are for the most part colorless. The color of the precipitates becomes therefore a very important consideration. In the crystals of sugar, the color does not reside in the body of the crystals, but is well known to be entirely superficial, and capable of being washed away with the loss of a small portion of the substance; so that sugar of large grain is the best adapted by its extended surfaces to be thus cleansed, is brighter and clearer, and therefore most desirable to the refiner.

The actual phenomenon of atomical combination suggests the idea of peculiar attachments and aversions subsisting between different bodies, and it was in this figurative sense that the term "affinity" was first applied by Boerhaave to a property of matter. A specific attraction between different kinds of matter, must be admitted as the cause of combination, and this attraction is conveniently distinguished as chemical affinity. Atomical adhesion, the force by which solid bodies generally retain their forms, depends on a parallelism of arrangement of particles as we can most distinctly observe in the fracture of the metals, iron, zinc and copper; all of which present a chrystaline structure as perfect as the largest stalactite or basalt. In other instances the same force is beautifully exhibited by the adhesion of two plane surfaces of *like* material, such as lead or even glass, which can be so pressed together as to form perfect identity, and be incapable of separation without exposure of entirely new surfaces. But the property of water to adhere to solid surfaces and to wet them, unequalled by any other liquid; the diffusion of a drop of oil on the surface of water, or its most intimate mechanical admixture from which by rest it so readily resumes the previous arrangement of its particles, all prove that if attraction is the given law, its action depends on the peculiar position of matter when it is brought into operation.

Atomical affinity is dependent upon temperature and the close proximity of the particles, and at the same time the purity of contact. The temperature at which chrystalization takes place or is destroyed, does not produce chemical change to which bodies are liable in some instances by the temperatures at which they freeze or boil. Chrystalization, as in the case of the metalic salts, binds bodies of different nature together, and is often made use of by the chemist as a method of refining his manufactures, and herein is found the need of pure elements, and the absolute necessity of positive contact atomically. This is beautifully illustrated in the manufacture of sulphuret of copper, the primitives of which must be essentially free from foreign ingredients, and require the force of trituration to bring about their combination. Affinity is thus gradually produced, and by degrees the sulphur and copper lose their characteristic appearance, give out large portions of their latent heat, and become a new body of different properties from its constituents.

We behold matter existing in three different and dissimilar states: solid, liquid and gaseous, and find that no body is restricted to any one of these forms, but that it depends entirely upon temperature, and it is always at the same temperature, other circumstances alike, that changes of form are produced. The first effect of heat, then, on the state of bodies, is the conversion of solids into liquids or gases; heat is the cause of fluidity. In observing the phenomena of caloric, we are too apt to regard the temperature of ebullition or evaporation overcoming the resistance of the atmosphere as the starting point, when on the contrary we should rather take the point of congelation or chrystalization, and if possible, consider all bodies as solids. Those which we regard by habit as liquids, such as water, milk, wine and oil, will then appear as crystals or solids, and we can better fix the value of their heat, and carry forward our comparisons; water, if pure, becomes a solid at 32°, milk at 30°, olive oil at 36°, sugar at 238°, but all varying according to their purity and freedom from extraneous matter, as well as atmospheric pressure. Water charged with chloride of sodium or common salt to saturation, crystalizes at the reduced temperature of eighteen degrees, and then imperfectly. We also find that a perfect syrup of sugar is prevented from crystalization by the pressure of lime, potash, or especially the metalic salts, which are sometimes used to precipitate its albumen, by way of clarification, and that these substances should be neutralized when used, is within the experience of all who have experimented in sugar making.

The imperfect combination of crystals, which takes place in both the case of the brine and the impure sugar, has the effect to produce in the crystals of each product a peculiar affinity for moisture, and a ready deliquescence with small increase of temperature. The fulle ffect of atmospheric pressure on fluids at the point of crystalization, as a power to increase their atomical attraction, and aid the polarity of arrangement, has been very imperfectly appreciated until of late years. The vacuum-pan for boiling sugar, relieves the contained fluid of pressure, and thus produces a free action of the two forces which effect crystalization, atomical attraction governed by polarity; and the arrangement of particles having taken place to a more or less perfect extent by their continuance in the vacuum, their permanent position is perfected by the discharge from the pan, thus subjecting the incipient crystals to the pressure of the atmosphere, producing more intimate contact and perfect union of surfaces.

The same has been proved by the application of pressure in a dry way. Experiments made in London some years ago by Barton, and more recently in New York by a practical operator, with the most powerful hydraulic press in the country, compressing low quality of sugar having minute grain, go to show an increase of size in crystals by this forced contact of surfaces, and explode the false notion that the grain is destroyed or reduced. Moreover, the product thus obtained was drier and less liable to deliquescencies than that which had been subjected to the ordinary method of syruping to free it from molasses. The sugar placed in bags and subjected to the press, exuded its thickest molasses at first, which gradually grew thinner until it ceased to run. Then appeared the vegetable albumen in little particles resembling fish-roe, unctious to the touch, insoluble in water or alcohol, and progressing rapidly to fermentation with its small quantity of saccharine. The sugar falls from the bags in dry hard lumps of improved chrystaline appearance, and so brilliant as to make the motes of dirt very conspicuous.

This process of purification from molasses has latterly been made to operate well in conjunction with the melter method of clarification first performed, by which the surface of the sugar may be skimmed of floating impurities, and the sediment withdrawn from the bottom, as is well known to all sugar workers.

The crystals of sugar formed after the process of thorough clarification, most rapid evaporation, and this performed at the lowest temperature and atmospheric pressure, at the time when the chrystaline arrangement of particles is taking place, is found to produce a sugar richest in saccharine, of most perfect and durable crystals, and yielding less molasses while in the cooling. Boiling in vacuo before the arrangement for crystalization takes place, does not appear to be essential to the product, and how much impediment it may be to perfect clarification cannot be said.

Art. V.—THE CRESCENT CITY.

> ——"The trade and profit of the city
> Consisteth of all nations."

In the present number of the Review, our readers will find an engraving executed by Shields & Hammond, of the Queen City of the South as she is viewed from an opposite point of the river, in all life and animation—all grace and attractiveness. Let us meet with the liberal support that we have, or the increased one we anticipate, and similar engravings of every city of the south and west will be furnished from time to time, and ultimately perhaps of the whole Union, accompanied with sketches, historical, statistical, descriptive, &c. Engraved portraits too of our eminent practical citizens may be expected, as we trace their busy and useful lives and gather wisdom out of their checkered experience. Should nothing unforseen occur, the April number will contain a finely executed sketch of the Balize and the country contiguous as it is presented to view on the approach from the ocean. It will be taken for us from a painting now at the Balize.

But in relation to the subject before us—the City—we would occupy a few pages here as we have occupied over and over again pages in the past. It is so fruitful a theme—so full of interest—so likely to excite enthusiasm and to warm up the fancies of the veriest sleeper, that one may safely approach and touch it. Poetry and plain matter of fact appear to have harmonized for once and blended into an attractive union. Shall we regard the sluggish old "ocean stream," which is winding by us, laving our levee, leviathan like, in its pathway to the great deep? It has been working its way onward that old river, farther than our fancy may trace it,—through all climes and lands and peoples—from where its remote source, a sleeping lake, deep set in impenetrable shades, on mountain heights, beyond all haunts of civilized life, mirrors savage and unchased beast,—it has worked itself on, "father of all waters," among mountains—

> "Where rolls the Oregon, and hears no sound
> Save his own dashings"

through glades, over crags and precipices—now gaining breadth, now tapering and constrained again, then rushing impetuously forward,—here showing limpidly a pebbled bottom, there deepened and frowned upon by heights, rising upon heights, rugged and snow capped—onward, gaining in strength and in vigor, as kindred waters meet and blend and sweep on together, leaving the savage, the intractable forests and its inmates, to be cheered by sounds of busy nations of toiling men as the ocean nears at last.

Shall we regard the metropolis which the picture shows in the distance? Does it not carry us back to times long past and memories of them we would not, no never, lose. There were classic days then, when all hearted and chivalrous Frank, struggled with the savage and won a home amid wastes and wildernesses here, and cherished in his dreams fond visions of success so hardly and so seldom won. Bienville, Iberville, D'Abadie, Baron of Carondolet, or even further still, La Salle! Venerated names—ye have struggled here—your toils, your defeats and your triumphs—but where are ye now?

Let the gloomier times of Spanish domination come. We see O'Reilly in military power high over all,—an armed soldiery to crush a feigned rebellion. O'Reilly magistrate, the noble sons of Louisiana are victims of his tyranny; O'Reilly law-giver, the province changes its institutes and its forms, and the customs of Paris yield to the statutes of Alphonso; a new government but not a new people. These times too are all past.

And they the relics of those times; the antiquated structures which ruin has not wholly seized from us; there are such here; we would not change them, rude peasant cabins though they be. Cathedral or chapel of unclassic architecture, no matter, old Time has marked and associated his incidents with them all.

But these are panoramic scenes and picture hurries picture on. The First Consul, Bonaparte, trafficking for Louisiana, his policy had gained but his power could not hold. Jefferson in fierce strife of hostile parties; Wilkinson and Claiborne and Burr and Livingston, and that man of iron who won immortal honor at Chalmette; our population so blended, native and foreign—all the earth represented; our commerce growing beyond comparison. Is there no incident or romance in all of this?

Such is New Orleans as full fledged fancy flies; but there are those who see it not thus—men afar off, with opaque glass, discerning nought but marsh and miasma, drear abodes of vice and discomfort, blackened warehouses and mired ways. Let them come here and we will point them to the old river and to the levee, to the old city and the new, to structures which want no magnificence, to quays which know no rest, and they will warm with us in the scenes we will show them ere they leave again.

But pardon reader what has been random wandering. We are not inextricably lost and return with no great reluctance to plain sober matter of fact which after all is more sensible.

Whatever we thought could interest in relation to this city, its history, its commerce, its life, manners, statistics, etc., as our numbers were issued, we published during the last fifteen months, and there is abundance for reflection in what we have published. Little on this head remains at this moment, but the subject grows and is not likely to be exhausted soon.

At all events, having perused the lately published works of Mr. Gayarrè, we noted some things of which their is but little general knowledge, and which we doubt not, if translated, would be deemed acceptable any where. What we have in mind are the allusions to the early days of the city, the site of which, it would appear, was not much regarded at first, except by that wonderfully sagacious man Bienville. We introduce a passage.

Bienville wished, 1719, to remove the seat of government to the banks of the Mississippi, on the present site of New Orleans, at the place to which fifty men had been sent the preceding year, for clearing the ground, but was opposed by the officers who shared the command with him, and who were sustained by the commissary, Gen. Hubert, as well as by the directors of the company. A considerable rise of the river which covered the land, the advantages of which were being discussed, determined for a moment the question. The adversaries of the project of Bienville gave as a reason, that the colony had not the the necessary means of erecting the dykes with which it would be necessary to surronnd this settlement. Hubert wished the seat of government to be established at Natchez. L'Archambault Villardo and Legas, whose views were rather commercial than agricultural, did not wish to leave the shore of the sea, and recommended the east coast of the Bay of Biloxi. This opinion prevailing, a detachment was sent there to build houses and barracks. This place was called New Biloxi to distinguish it from the first settlement, which was afterwards called Old Biloxi.*

Three years after this, 1722, Bienville being then at Mobile, wrote to the ministry, complaining of the position at Biloxi, and showing the advantage of one selected on the Mississippi river. We translate this despatch.

"I have had the honor of giving the Council information by my last letters, as to the entrance of the river, and of assuring it that vessels drawing less than thirteen feet of water can enter, full sail, without touching, and that it will not be difficult to make the pass practicable for larger vessels as the bottom is soft and moving. I would have commenced operations there before, if the engineers specially charged with such work had been of the same opinion; but they are occupied altogether with those of Biloxi, which I believe we will be obliged to abandon. If we continue to make our discharges there, the settlement of the colony will be retarded, and we must make great outlays on account of the distance from Ship Island, which is five leagues from the main land where we are settled. We are obliged in order to discharge the vessels, to send out lighters, which on their return cannot approach the land nearer than three-quarters of a league. Then we must send out boats to discharge these lighters, and these boats are grounded a rifle-shot from the shore. The Council will thereby know of what importance it will be for all the vessels from France to enter the river, where they may be discharged in two days. I have sent thither two ships, one of three hundred, and the other of four hundred tons, and they have gone in full sail. I would have done the same with others which have just arrived, if precise orders had not been given for discharging these vessels at Biloxi.*

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* Hist. Louis. *par Chas. Gayarrè.*

In the year 1760 the following was a faithful picture of the most important part of the city, the public structures, etc.:

The situation of the public buildings at this time—1760—was as follows: The old Barracks were between Royal and Bourbon, Toulouse and St. Louis streets. The old Government House occupied the ground now comprised between Customhouse and Royal streets. Chartres street stopped at Bienville street, and lead to the Government House. The new Government House, in 1760, was at the corner of St. Louis and Levee; towards Toulouse, and took up about one-third of the square, but its front on St. Louis street took up one-half of the square. At the opposite corner was the Intendance. The present Hospital street, or Bayou road, came no nearer to the river than Royal street, where it ended in the Army Hospital, which extended to Quartier, Ursuline, Levee and Royal.—2d vol.

From a very eccentric volume published some years ago, which, with not a little that is wild and whimsical, contains much that is sensible and interesting, we take the liberty of transcribing a page or two. The pictures which will be given are truly drawn, and so far as w give them may be relied upon. With the extracts the reader will permit us to retire. And first we have an introduction to the city:

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* Hist. Louis. I.

"By whatever route the traveller approaches New Orleans, whether by the river, the sea or lake, the feature which first attracts his attention is its Levee, where one may meet with the products and the people of every country in any way connected with commerce than its upper or most southern extremity.

"Levee is a French word, of primary importance within the State of Louisiana: it pervades its statute-book and is daily heard within its halls of justice. 'There is little or no land,' says Judge Porter 'on the banks of the river, within this State, if we except an inconsiderable quantity in the neighborhood of, and above Baton Rouge, which would not be covered with the waters of the Mississippi in the Spring months, were it not for the artificial embankment which the industry of man has raised to exclude them.' Thus the Dutch are not the only people who have won their domain from the watery element. The State of Louisiana, when we consider its recent existence, the paucity of its population, and that population sparsely scattered over a large extent of country, has done more than Holland: yet we overlook the wonder which lies at our own door, to lose ourselves in admiration of the not greater wonder three thousand miles off.

"The traveller from the North as he touches the region of the orange and cane, of smiling plantations, bounded in the back-ground by dense forests, and stretching onward to a seemingly illimitable extent towards the South, and looks down upon the planter's mansion, the cluster of white cottages hard by, the slave at his daily task, and the mounted overseer, as one would look down from a balcony upon the busy street below, appears first to be made conscious that the Mississippi, the father of waters, the receivers of so many mighty rivers, is here, near the close of its course, where its stream is most rapid, controlled by the puny hand of man—that the ocean-stream upon whose bosom he is floating, here restricted, hemmed in, and directed, sweeps down to the sea over an artificial ridge, and that he is passing through a huge aqueduct, which raises the dweller upon water above the dweller upon land! Here the waves do indeed bound beneath him as a steed that knows his rider, yet the traveller sees, admires, and forgets. But if he forgets *the whole*, he cannot forget *the part*: when once seen, once remarked, he cannot forget *the Levee* of New Orleans, the storehouse of the great Valley of the Mississippi, the receptacle of the products of a hundred climes, of a country extending from the frigid to the torrid zone, illimitable in resources as almost illimitable in extent; the goal of a thousand steamboats, and of more than a thousand merchantmen; the exchange, the place of purchase, of sale, and of barter; the huckster's shop, the news-room, and the Prado of the greatest exporting city in the world."

We have the following graphic sketch of the Levee and of the scenes constantly presented upon it:

"The Levee of New Orleans is one continued landing-place or quay, four miles in extent, and of an average breadth of one hundred feet. It is fifteen feet above low water mark, or that stage of the river when its waters retire wholly within their natural bed; and six feet above the level of the city to which it is graduated by an easy descent. Like the river it margins, it holds a serpentine course, advancing or receding, as the Mississippi encroaches upon the city, or falls off towards the opposite bank. It is constructed of *deposite*, a rich alluvion swept from the north, and held in suspension by the waters of the Mississippi until their rapidity is checked by a sudden change of direction, or, swollen to overflowing, they spread over the adjacent swamps, again to retire, and again to bless the land they have visited with an increase of soil. The deposite is so great, and the consequent formation of new land so rapid, immediately in front of that portion of the quay which is most used for the purposes of commerce, that it has within a few years become necessary to build piled wharves, jutting out from fifty to one hundred feet into the river. The new formation, which is governed as to its locality, by what may well be termed the freaks of the Mississippi, is called "batture;" and when it has progressed to such an extent as to be left bare by the retiring water at its lowest stage, is held capable of ownership: a sort of property which has given birth to an indefinite amount of long continued, intricate, and vexatious litigation, dating from the first appearance of the late Edward Livingston in the courts of Louisiana up to the present moment."

The flatboat commerce of the city is thus portrayed:

"And here one may see what New Orleans was before the application of steam to navigation. Hundreds of long, narrow, black, dirty-looking, crocodile-like rafts lie sluggishly, without moorings, upon the soft batture, and pour out their contents upon the quay: a heterogeneous compound of the products of the Upper Mississippi and its tributaries. These rafts or flatboats, as they are technically called, are covered with a raised work of scantling, giving them the appearance of long, narrow cabins, built for the purpose of habitation, but designed to protect from the weather, a cargo often of the value of from three to fifteen thousand dollars. They are guided by an oar at the stern, aided with an occasional dip of two huge pieces of timber, which move on either side like fins, and float with the stream at a rate of three miles the hour. Such was the carriage of the products of the up-country twenty years ago! their number has not been diminished by the introduction of the steamboat. It is, indeed, a natural, simple, and cheap mode of transportation; and as long as the Mississippi passes with such rapidity from its source to its embouchure in the gulf, the traveller will meet with these unsightly masses floating on its bosom, swayed to and fro by its currents, counter-currents, and eddies, often shifting end for end, like some species of shell-fish, and not unfrequently, like the crab, preferring the oblique to the forward movement. Yet hundreds are at times sunk by sudden squalls, and of the many freighted in the up-country, perhaps not more than two-thirds ever reach New Orleans. The insurance offices look upon them as very unsafe bottoms.

"Of the many which lie before me, grounded upon the batture, some are filled with fat cattle, whose lowing discourses eloquently of the distant pastures of the north. The States of Kentucky, Indiana, Illinois, Missouri, Arkansas and Louisiana, and the Republic of Texas, annually send more than twenty thousand head of horned cattle to this market. Arkansas, Missouri and Texas raise numerous herds, which run wild over their extensive prairies, and are tamed and caught with salt. Kentucky, with greater progress in the arts of husbandry, pastures and stalls its beef, which, consequently bears off the palm for size, condition and general excellence. Others are freighted with horses, mules, and sheep; corn in sacks or in bulk, and upon the cob—a method of transportation which has its advantages, what is lost in stowage being gained in protection from must and rot.

"Here is a boat stowed with apples, inferior enough in quality, cider, cheese, potatoes, butter, chickens, lard, hay—coarse, the rank growth of a virgin soil—all offered for sale, in the mass or by the lot. Pork, alive, in bulk, in barrels, fresh, salted, smoked, of all sizes and conditions; the corn-fed fatness of Ohio, and the lean acorn-growth of Illinois. Were Judaism to prevail where would be the greatness of Cincinnati? Flour from Virginia and Ohio, old and new, sweet and sour; the leading breadstuff, yet the most fickle in price: cotton from Arkansas and Mississippi, lumber from Tennessee, whiskey from Missouri, tobacco from Kentucky, twice foundered, twice drenched, to be here dried, cured anew, disguised and re-packed, close the list.

"But the men who make these things of wood their dwellings; who launch them upon the Ohio, the Illinois, the Upper Mississippi, the Missouri, the Arkansas, and the Cumberland, with all their tributaries, and guide them to this their final resting-place, should not be forgotten. They are a distinct class of beings, livers on the water, known and designated as 'boatmen of the Mississippi,' an expression which embraces all that is strong, hardy, rough, and uncouth, with much that is savage, wild, and lawless. They cannot be supposed to have been born in habitations constructed for so temporary a purpose, yet the congeniality of their dispositions with their situation and employment might justify one in suspecting that their mothers, like Antonia Perez, often visited the scenes of their husband's labors."

The steamboat landing:

"'That part of the quay which is peculiarly characteristic of New Orleans,' I mean the steamboat landing. Here all is action: the very water is covered with life. Huge vessels float upon its bosom, which acknowledge none of the powers of air, and wait no tide. One is weighed down to the guards with cotton—a freight of three thousand bales—one hundred and eighty thousand dollars! Twenty more lie side and side, laden with the same precious, gambling, national, ruinous commodity. The twenty-first has just arrived, and is puffing, blowing, and wheeling in the stream, seeking a mooring. She is covered all over; a mountain of cotton! Does its consumption keep pace with its growth? What will be the effect of bringing into cultivation all the productive land of Mississippi, Arkansas, Alabama, Louisiana, and Texas? Terra ingens et interminata! The southerner may well tremble for the future: a market glutted without the possibility of a recovery from the surfeit. The planter can never grow silk: that requires a poor, dense, white population; and he can never grow wine, for his soil will produce none but an inferior grape, which will not cover the cost of slave labor.

"Huge piles, bale upon bale, story above story, cover the Levee. A gang of negroes is still adding to a heap of ten thousand, unguarded, unprotected; the winds fan it; the rains beat upon it, the sun bleaches it, the bagging and the rope rot and fall off; a consignee at Liverpool, who is accustomed to handle the commodity so preciously, would run stark mad with imagining one half of what is here to be seen.

"Pork without end; as if Ohio had emptied its lap at the door of New Orleans. Flour by the thousand barrels; rolled out upon the quay, headed up, pounced upon by the inspector, who pierces each through and through with a long hollow tube, well calculated to bring away his perquisites. A large area is covered with these two products of the up-country, and still appears seemingly undiminished, although the seller, the buyer, and the drayman are busy in the midst of it.

"Here is a boat freighted with lead from Galena; another brings furs and peltry from the head waters of the Missouri—three thousand miles to the northwest! When I contemplate the vast region of country which is now just opening to cultivation, and of which New Orleans is the natural mart, I find it impossible to set limits to the city's future increase; how can I resist the conclusion that at some, and not very distant day, northern products will be here collected in such quantities as will reduce its present great staple of export to an inferior rank in mercantile importance."

The ship Levee at twilight:

"The sun is just dipping into the west, and the broad bosom of the Mississippi is bright with its departing rays, which dance upon its surface, as upon a mirror quivering in the breeze. The busy hum of life is hushing to repose, the whole scene grows mellow, and man, with all of nature, puts on a softer aspect with the closing in of night. A light south wind comes gently from the gulf, scented with the sea. All that man has done, and all that man is, is before me. The merchantman and the steamship tell the whole story of art, of science, and of luxury; of discovery and invention; of the interchange between nations, imparting knowledge, harmonizing manners, creating refinement; of the exchange of the products of distant climes, supplying nature, and feeding artificial wants; of all that has been since 1492. The Cathedral bells are chiming to vespers; the flags of every nation—our own, the English, the French, the Spanish, the Dane, the Russian, the Swede, the Hollander, the Free Cities—are run to the mast-head to salute the setting sun. That custom speaks; the most ignorant sailor understands it; and, as he sees the shade cover the hull, and creep upward till the colors of his country are alone bathed in light, while all beneath is dark, his better feelings gush forth in worship without form.

"I have chosen this hour to visit that portion of the quay which is appropriated to foreign and coastwise shipping, because it is at this hour that the *wharf* partially changes its character, and assumes the appearance of a *prado*. The dull, dusty, dirty routine of business is the same throughout its whole extent. The interminable chant of the negro, with its full, sonorous chorus is here supplied by the hearty "Heav-yeo-up!" of the sailor; and the cotton-bale, tobacco-hogshead, and whiskey-barrel yield to bales of foreign and domestic manufactures, pipes of wine, and crates of ware.

"The shipping stretches away from the point at which I stand as far as the eye can reach, two miles in extent, three tiers deep, with their heads to the current, curving with the river—a beautiful crescent. The bosom of an American heaves with honest pride as he looks upon the city, and this its chiefest ornament—the work of only thirty years! The last of sunlight has disappeared; the merchant, weary with the day's activity, thoughtful, stooping, his eyes bent upon the ground, hurries homeward, calculating his profits; "Y-augh! y-augh! y-augh!" a gang of negroes, ever merry—there is not a surer test of happiness than uniform hilarity. Next come some half dozen sailors, in tarred hats, clean check shirts, white trousers and slippers. They have just arrived, have just received the little money due them, and are just starting into the city with a sober gait, and an honest, open face, to see life, and get rid of their sea-legs.

"There is no twilight at the 30th degree north latitude. That sweetest of the sister-hours—that hovering between light and darkness, in summer so mild, in winter so brilliant, at all seasons of the year so tranquilizing to those whose feelings have been set on edge by the past day's homely labors, is here unknown; and already the stars begin to twinkle forth, one by one, bright and unobscured by vapour. New Orleans, though lapped in swamp, possesses a pure atmosphere. The stars come twinkling forth one by one."

The habitations of the dead,—for this is life,—to die.*

"New Orleans has five cemeteries; of these the Catholic and two Protestant are unique in plan and method of interment. Each is enclosed with a brick wall of arched cavities or ovens, as they are here called, made just large enough to admit a single coffin, and raised, tier upon tier, to a height of about twelve feet, with a thickness of ten.

"The whole enclosure is divided into plats, with gravel paths intersecting each other at right angles, and is densely covered with tombs, built wholly above ground, and from one to three stories in height. This method of sepulture is adopted from necessity, and burial under ground is never attempted, excepting in the 'Potters' Field,' where the stranger without friends, and the poor without money, find an uncertain rest, the water with which the soil is always saturated, often forcing the coffin and its contents out of its narrow and shallow cell, to rot with no other covering than the arch of heaven.

The cemetery in which I now stand looks as if modelled after a growing city. The tombs have an air of freshness about them which betrays their newness—nothing seems of yesterday—the peculiarity of their structure, their closed juxtaposition filling the plats like blocks of buildings, the well-gravelled paths between, the wall about the whole, with its numerous receptacles for the dead rising story above story, check the fancy, and almost persuade the visitor to believe he stands in the midst of a panorama of what the great mart which feeds it is to be. Even the little slabs of black and white marble, affixed like door-plates to the mouths of the tombs, carved with the names of their occupants, giving dates of birth and death, help out the illusion—they were all so young, one can hardly believe them to be of the dead! Yet that fact tells a world of sorrow, and discourses more eloquently than could the most gifted tongue, of the true character of that city, which here finds its final resting-place—its comparative newness, its advantages of trade, the great influx of aspiring youth, the periodical visit of the destroyer; the periodical passing away of thousands in the bloom of life, while more than thousands rush in to fill their places, again to pass away—again to be more than supplied by new adventurers: thus running a continual round; a race after death, while New Orleans, unchecked strides onward towards the goal of its destiny. Is man, with all his intellect, a play-thing in the hands of fate? Mephistopholes would laugh till his sides cracked amid the tombs of the cemeteries of New Orleans."

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* All Saints Day and the Cemeteries.

We may not altogether steel the heart and chronicle the statistics of life and death, nicely balancing them, like the sum of the export and import trade of the world. The man dies,—it is a *fact* and he is a unit; and many such facts and units make up a table. We can reason about such tables; but this man that has died and the hopes that are blasted and the hearts that are crushed, oh! these are *fictions*, and we do not chronicle them!

Well, let the reader protest as much as he pleases, we shall not always count living heads and tombstones for him, that in a nice fraction it may be shown the chance that lets him live, the web or cable that suspends him over the yawning chasm. Statistics of commerce may do very well, but we forbear those of mortality, at first intended in this note. Count the chances for yourself!

One may feel in a grave yard, and find a monitor in every grass blade; this makes a grave yard so uncomfortable, especially at night and when one is alone. But the grave yard ever teaches, and never more than here, where Catholic rites bring yearly back the memory of the dead, and freshens their tombs with emblems from the living. This calls to mind past thoughts and associations, and our diary of time distant back gives us a page which we have just referred to, and half consenting to insert here—consent. As we said before—not always facts, dry facts and figures!

"Nov. 1.—*All Saints Day.*—In the suburb Tremé, walled in with strong masonry and entered by massive gates, are four ample squares. The Catholic has laid out these wide cities of the dead and peopled them. Magnificent monuments rear their heads within these precincts. The cities of dead men are not without their splendours. I see the gorgeous tomb of the Cazadores rising with its head above all others, and around the walls of the squares rows upon rows of receptacles, for the stranger dead, are arranged with open mouths. But the vision changes To-day is the celebration of the festival of 'All Saints.' They have thrown the gates wide open. The dead will live again in the freshened memory of the living. A thousand tombs and vaults are covered with flowers and garlands. Beautiful flowers load the breezes with rich odours and perfumery. There are rare vases on the marble slabs, and brightly burnished candlesticks of silver and golden crosses. Strains of music, too, float over the tombs, and amidst them and around them solemn marches of priests chant at night-fall their requiems and mutter their prayers for the souls of the dead. It is beautiful to visit the homes of those who have left us, and shed a tear over their memory. I recollect in boyhood a tender sister. I loved her more than I can love now—but she died—died praying for me. It was lovely moonlight when I first visited her grave---her grave amidst woods and forests. Every thing was deathly still save the wind which moaned drearly among the trees——but no matter---long time has passed since then, and the grave of my dead sister is far away from me now. * *

"In the Catholic cemetery of Orleans, on the day of All Saints, the thousands and ten thousands of visitors are passing in irregular procession among the tombs---gaily decorated tombs---and recalling associations and memories of other days. There is a gaiety and thoughtlessness in much of that throng, and curious strangers are attracted to the spot. I hear the jest at times and the light word. These feel not the emotions which the occasion should suggest. But I mark in the habiliments of mourning yonder, one whose thoughts seem to have wandered away from this strange admixture of life and death. A woman has been arraying flowers over yon marble, and wreathing fresh and fair garlands of roses for the tomb. There is a pale face under that hood, and lines of grief are marked upon it. A single line upon the polished marble before her, but it speaks a volume, that line '*Ma Pauvre Fille.*' A mother weeps, but there is a touching sweetness in flowers to soothe the woman's grief for her lovely girl that lies there, and the mothers hand is busied with the flowers now---

"And lilies with the modest violets joined
And daisies pure and fragrant jasimine vines
In sweet memorial."

* * * * * One—two—three—four—they are sisters, beautiful girls in weeds. They are sad and thoughtful, and heed not the gay crowd around. How lightly they tread upon the sod, and with what tenderness they place the flowers, the bits of crape, and beautiful shells upon the monument. They have lit the waxen candles now. These girls are orphans. A mother in heaven may be watching over their pious love at her tomb---and, as I rest me by a pillar, and regard the interesting sisters, I see the elder in her earnestness, and all absorbed attention, has kneeled to place a floweret more tastefully than before. She is unconscious of her position there---but, I think at this moment, as I am lost in contemplation of the deeply affecting sight before me---I think was there ever any thing passing lovely---was there ever an angel visitor of earth---that beautiful girl kneeling there at a mother's grave, and adjusting a flower, with filial piety, and unconsciousness of the world around---that beautiful girl is the angel.

* * * * * * * * * * * All day long, thousands and ten thousands have been visiting the habitations of the dead. Wealth and poverty, old age and childhood have been wandering through the ground. Gorgeous ornaments are here for gorgeous tombs, candlesticks and crucifixes of gold and silver, rich vases and costly odours. Humble brick piles are intermixed among those costly ornaments. I see one which is decked with a simple flower alone. It lies carelessly, but there was piety in throwing even that simple flower. A strangers' hand has decked a strangers

tomb. I love the beautiful charity of the act ,for oh! God, a heart may be entombed in that strangers grave, which stands there without inscription, a heart which has once warmed with the noblest impulses and affections. * * * * * * * * * * * * * * * * And now amid these plain tombs and gorgeous palaces of the dead, I have wandered for hours. The last traces of daylight are lingering faintly on the scene---the waxen candles are lit up---the throngs of visitors are growing gayer---music is wafting its lively notes---the laugh and the merriment, and the noise of cannon are heard. I leave the spot in sorrow and in thought. I am lost again, a unit in the mass of this crowded city---but a better man, I hope, from the imposing ceremonies of the Sabbath of All Saints, in the Catholic cemetery of Orleans.

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Art. VI.—CULTURE OF THE SUGAR CANE.

CULTURE OF THE SUGAR CANE AS FOLLOWED ON SOME OF THE MOST SUCCESSFUL ESTATES.

The first operation is to clear the main drains and the cross ditches leading to them, so as to arrive at as complete a draining of the field as the localities will permit. This is a work of the utmost importance ; indeed when judiciously attended to, the soil of Louisiana will be found as favorable to the sugar cane as that of any part of the world. The ground is then cleared of all trash remaining on it at the close of each grinding, and the whole is bedded in a trench opened for that purpose between the rows of such of the stubbles whose soil requires renovation ; by so working, the nutriment absorbed by the cane prepared for the mill is returned to the soil, and the bedded leaves and trash serve for the planting of the following crop, whilst in the meantime giving porosity to the soil and facilitating percolation for the growing stubbles. Fields thus worked are found to gain in fertility by cultivation instead of losing as is always the case when the ground is left without repose, and the trash is burned.

The field being in a fit state for the plough, the ground intended for the plant cane is opened as deeply as possibly, each plough being drawn by a team of four heavy mules ; then wide clean furrows by a double plough called the fluck, are opened eight feet apart, and according to the quality of the soil, from two to four canes are placed in each furrow and lapped the whole length, and are immediately covered with fine earth ; on a well managed estate, this work should be completed at latest by the first of March. Immediately after which begins the second operation, to wit : the barring off the stubbles or rattoons, and the cultivation of the field including corn and other provisions ; barring off consists in running as near as possible each side of the stubbles, a plough so shaped as to throw off the earth from the stubbles, then the stubbles are shaved close to the mother plant by a very sharp instrument worked by a horse, and very rapidly and in such a manner as to leave on the plant, if possible, only from a half to one inch at most, of earth. And now begins the ploughing between the rows of canes, plants and stubbles, to put down the grass, to loosen the soil and to forward vegetation; for this purpose and for a field of six hundred acres of cane and two hundred acres of corn, thirteen two horse ploughs are amply sufficient, provided the teams can be changed twice a day; three hands follow each plough with their hoes to clear the grass where the plough cannot do it, and to clean the cross ditches; this working is continued until the canes are sufficiently forward to be earthed, when the fine soil between the rows is gradually brought from their centre to the foot of the plant, thereby turning the row into as many ridges, and the space between them into so many drains slopeing about one foot from the top of the ridges to the bottom, and emptying themselves in the cross drains, which in their turn run into the main drains made of sufficient capacity to carry rapidly any quantity of water that may fall during the most rainy season. So soon as this work is completed which should not be later than the 15th of June, a sub-soil is run three times between each row and to the depth of one foot; this is done very rapidly where the instrument is sharp and well shaped, and drawn by two strong mules, and adds considerably to the porosity and depth of the soil.

The canes thus brought to this stage require no more cultivation; they soon form a beautiful arch, smother the grass below, and shoot gradually their saccharine matter above from cell to cell of a tubular form, until the beginning of October, when commences the cutting, the matrassing, the grinding, and the boiling of the cane into sugar.

That this mode of cultivation compared to the routine of three-fourths of our planters may bo be well understood, the following dialogue is introduced:

DIALOGUE BETWEEN A PLANTER OF THE OLD, AND A PLANTER OF THE NEW AND PROGRESSIVE SCHOOL OF HUSBANDRY.

1st Planter:—How is it neighbor, that with the same number of working hands your crop of sugar is secured when mine is hardly half through, and that your crops are regular and generally double of mine?

2nd Planter:—The reason is very simple. We have it is true, the same number of hands, but you rely chiefly upon them for your field work, whilst besides mine, I employ mules where ever they can do the same work; the consequence is, that my working power is really greater than yours, as you will perceive as we go on.

My teams forming an essential part of my working power, I take special care of them, and never overwork them. I employ 60 strong, well fed mules; you have only 30 mules and horses that you overwork and feed badly, whereby they are soon made unequal to the task; they should perform it in good order. The consequence is that your work is badly done, and that you lose half of your teams every year, whilst I seldom lose any of mine.

Drainage is the life of vegetation; my field is completely drained, yours is not, and thus it is that your soil is stiff and clammy, whilst mine is the reverse. It is true that you employ your own negroes to open a few narrow ditches, without issue when they are full, whilst I employ Irishmen to open my main drains so that my lesser drains may always find a rapid issue. This, however, I do not consider an expense, but a capital at compound interest which I place upon my estate.

My soil being made deep and porous by drainage, and yours being the reverse for want of it, gives me a very great advantage over you in a rainy season, or during a drought. In a rainy season all surplus water is rapidly carried away from the surface of my field by percolation, so that a few hours after the heaviest rain, my ploughs are seen at work; in your stiff and clammy land on the contrary, your field remains under water, it being deprived of surface draining by percolation, and your ploughs are seen at a stand for days together when most wanted to command the grass smothering your plants, whereby you lose your crop. Again our summer sun is death to the plant under surface water, whilst highly favorable to that freed from it.

During a drought, in my deep and porous soil, the sun by attraction, supplies my plants with moisture, to meet which they send their roots deep in the soil, which is favorable to the production of saccharine matter. In your field, on the contrary, the sun having no action beyond its surface bakes the land, and starves your plants whose roots cannot penetrate below. For purposes of reproduction the best and most perfect seed are used. This I invariably do; you do the reverse, by keeping for plants your worst canes.

My first operation in beginning the agricultural year, is to clear my drains, so as to prepare my ground for the plough, and to clear my field of leaves and tops by bedding the trash in furrows between the stubbles, that the nutritious power taken from the soil by the cane ground, be returned to it by the leaves and tops thus bedded, production and renovation being found thereby to keep in perfect equilibrium, and rendering unnecesssry the laying by of a large portion of the field for purposes of renovation by a change of cultivation or otherwise, as was lately the general practice.

Your first operation, on the contrary, is to burn your trash, thereby destroying the best manure that can be used for renovation of the soil and production, and then before cleaning your ditches, you commence ploughing and planting. The consequence is, that when the season is wet, your ground being saturated with water becomes stiff and clammy; that your ploughs move in it with the greatest difficulty, and at best only scrapes it, and that your canes are bedded in mud or earth as hard as brickbats, according to the weather—all things destructive of good vegetation; whilst my field being completely drained before I begin ploughing, my teams of four stout and well fed mules walk over it rapidly, leaving behind them as deep a furrow as needed, and the ground thus loosened at a proper depth being ever relieved by my drains of all surplus water retains a porosity which affords to my canes a dry bed and a cover of fine soil, whereby life is secured to almost every eye of the plant; and then again your land being stiff and clammy for want of draining, and mine not, my planting is completed before yours is half done.

I plant my canes eight feet apart, and according to the quality of the land; I place from two to four canes in each furrow, lapping the same the whole length.

There being plenty room between my rows of cane, I work two horse ploughs with ease, and without disturbing the young plants shooting out, or the fibres forming in the deep soil prepared, all which is of great importance, for the moment the young roots are disturbed, the plants turn yellow and their growth is suddenly checked and so remain until new fibres restore them again to a healthy condition, which seldom takes place in less than a fortnight; thereby throwing back the growth and maturity of the cane a fortnight and more. Thirteen two horse ploughs and a double set of mules so as to change them once a day, and three hands to each plough to clear the grass where the plough cannot act, suffice to keep in the very best order my six hundred acres of cane and two hundred acres of corn, (whilst preparing fine soil to earth my plants when needed,) to clear my cross ditches of grass and earth thrown in them by the plough, and to open each furrow into the cross ditches, so that in heavy rains the water not absorbed by percolation may be rapidly carried to my cross and main drains, &c., &c.

By 15th June my canes are sufficiently forward to leave them to themselves, when the fine soil prepared by the plough between the rows is rapidly carried to the foot of the cane so as to form a ridge of about one foot, descending gradually to the centre of each row, thereby forming a drain, through which I run three times a sub-soil to the depth of about one foot, the whole finding an issue for any surplus water in the cross-ditches. By the middle of June, my field requires no more care, and then begins wood-chopping by the men, and brick-making, road-making, or some other light work, by the women and weak hands.

You, on the contrary, plant your canes five to six feet apart, and, be the condition of your land what it may, you only put two canes in each furrow, lapping the same.

My furrows containing one half more canes than yours, and my ground being better prepared, I obtain a much larger number of mother plants in each row; and then I do not disturb them whilst forming their roots, my ploughs having plenty of room to work down the grass, and to prepare soil for them when ready to receive it.

The reverse is the case with you: you cannot work your plough in your narrow rows without destroying more or less of your plants, or disturbing their tender roots, whereby their growth is immediately checked, the plants turning yellow, as before said, to their great injury.

Want of space compels you to use only one horse, whilst I use two mules to each plough; the consequence is, that with exactly the same number of ploughmen, I perform double the work you do, and that the grass in my field is rooted out and destroyed, whilst in yours it is seen growing up nearly as fast as cut. Unable to overcome the grass with your ploughs, the whole of your gang of negroes is seen constantly employed with their hoes helping the ploughs, and it requires unusually favorable weather to enable you to lie by close of July, such canes as you can bring forward, thereby throwing back their maturity, and your wood-chopping fully one month and more, and bringing your grinding to the most critical period of the year.

And when the cane is laid by to shoot up its tubular cells and to form its saccharine matter, it requires both air and sun, neither of which yours can have in your narrow rows, and hence the want of maturity of your canes when mine are fully ready for the boiling-house. Thus it is:

That my canes having good drainage, plenty of room for air and sun, and good ploughing, neither of which yours have, grow faster and larger, and mature sooner, whilst I obtain more mother plants and less shoots in my twenty-two rows per acre than you do in your thirty or thirty six rows.

That my negroes are chopping wood in the forest, making bricks, preparing the sugar house, &c., &c., whilst yours are sweating among your canes, and catching cold and fever on issuing out of the crowded leaves.

That my canes are laid by a month earlier than yours, and even more, which gives me an advantage over you of one month in the maturity of my canes, which is all important, for, when the winter is early, the ripe cane can bear a very heavy frost, and be cut and preserved one month and more, whilst a green cane whether cut down or not, is destroyed by the first heavy frost.

That whilst I carry canes to the mill averaging five to six feet high, yours seldom average more than three to four feet.

That my wood-chopping is completed when you begin yours, whereby my fuel for boiling is dry before used, which is a very great advantage both for the rapidity and quality of granulation, whilst yours is green.

That my hay and provisions are secured when you begin to take in yours, whereby you are very often deficient in your stock of hay by not being ready for it when it is ready for you, and your poor animals suffer for want of dry food at the very time they most want it.

That my teams by proper treatment and a judicious distribution of their work, so as not to throw extra labor upon them at any time, retain their healthy condition throughout the season. That yours, on the contrary, having to go through the heaviest of your work within a very limited period, are broken down before the commencement of the grinding, whereby your mill is half the time idle for want of canes.

That in an early winter you lose a large portion of your canes, whilst I always secure mine.

That with equal power of engine and boiling apparatus, my teams keeping both supplied with canes to the extent of their power, and my fuel being dry, which is not the case with you, on an average I boil double the quantity of sugar that you do, and that my grinding is completed when yours is not half through.

Thus it is, in fine, that by close attention to the ordinary rules of good husbandry, and the proper balancing of my working power, agricultural and manufacturing, during the period within which sugar can be made in Louisiana, as safe and regular a crop as any other in the United States, my crops average nearly double yours, and are regular although we work the same number of hands, and our fields are equally extensive.

Art. VII.—PUBLIC HEALTH.

PUBLIC HEALTH AND PREVENTION OF DISEASE IN SOUTHERN CITIES.

It will not be denied that these are important considerations in every community interesting to every class of citizens. Upon them depend the hope or prospect of advancement, and commerce can exercise no empire when controlled by the adverse and blighting influences of disease and death. How much then is it incumbent upon those who have the interests of our cities, more especially of the south, in charge, to regard their health.

It is in this view that we take occasional opportunities to present to the mass of our readers, correct information upon this, as upon other practical subjects of wide public concern. By referrence to the numbers of the Review for last year, it will be seen how frequently and fully we have done this.

At this time we would merely exhibit some reflections from the Committee of the Board of Health, of which Dr. Hort is chairman, together with a most interesting letter with which the learned Professor has favored us for publication.

The Committee say in allusion to yellow fever: " Since 1839, the disease has been decreasing in private practice and has been confined chiefly to the Charity Hospital, showing it to be the results of some *special* and not of a *general* cause."

The following list of deaths and interments will show the progress of the fever during the past season in New Orleans:

From 23rd to the 30th of August,	68	deaths;		no yellow fever reported.
" 30th Aug, to 6th of Sept.,	90	"	1	case yellow fever reported.
" 6th to 12th Sept., :	74	"		no " " "
" 12th to 19th " : :	93	"	3	cases " " "
" 19th to 26th " : :	68	"	5	" " " "
" 26th Sept. to 3rd Oct.,	94	"	21	" " " "
" 3rd Oct. to 10th, : :	88	"	12	" " " "
" 10th Oct. to 17th, : :	107	"	39	" " " "
' 17th Oct. to 24th, : :	98	"	22	" " " "
" 24th Oct. to 31st, : :	91	"	14	" " " "
" 31st Oct. to 7th Nov.,	84	"	12	" " " "
„ 7th Nov. to 14th Nov.,	82	"	8	" " " "

" The Committee regret that they are unable at present to compare the above with similar reports from New York, Baltimore, Philadelphia and Boston. From the middle of September citizens and strangers were pouring into the city by thousands, yet the increase of deaths was in no ratio with this fact, but only such as invariably occurs at that season of the year.

" When these circumstances are duly considered, and that moreover disbanded volunteers already debilitated by disease on the Rio Grande, were returning every week during the summer and fall, that most of them were unacclimated men from the Western States, and compelled to remain for some time in the city, it is only surprising that New Orleans has suffered comparatively so little this past season with malignant and yellow fevers. It has been estimated that more than twenty thousand Europeans have settled in this city in the course of the four or five last years, none of whom have been acclimated by yellow fever, and they would necessarily have been exposed to its attacks, and amongst the first victims had the fever been epidemic in its character. Every fact tends to prove that it was local in its origin and confined to the locality where it originated.*

To J. D. B. De Bow, Esq.:—

In compliance with your request I now offer you some remarks on the subject of smallpox and vaccination, for which I had neither time nor space in the report of the Board of Health for the year 1846.

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* See N. O. Medical and Surgical Journal, Vol. III, No. 4.

In the report it is observed, that "the smallpox has not hitherto done much mischief in this city, but there is no telling what ravages it may some day make under peculiar circumstances."

I propose to begin with facts, and end with some comments.

It appears that Hippocrates, nor any of the old Greek or Roman authors were acquainted with this disease. The Arabians were the first to notice it after the establishment of the Mahommedan religion. The existence of it cannot be clearly traced farther back than to the siege of Alexandria, in A. D. 640. Some writers think that they have found traces of it in very ancient Chinese records, and others in the sacred books of the Gentoos; and other accounts state that it appeared at the siege of Mecca in 522. But there is nothing on the subject that can be deemed authentic prior to the siege of Alexandria by the Saracens in 640. The disease gradually spread throughout Europe, and in 1520 reached some provinces of South America, and proved fatal to *one-half* of the inhabitants. It has always been peculiar, virulent and destructive on its first appearance in a country. For a long time it was considered in Europe the most fearful ordeal to which youth could be exposed.

According to Dr. Jurin, who wrote in the beginning of the last century, 65.079 persons perished in London by this disease in 40 years; and the same writer observes that one fourteenth part of mankind died of smallpox.

When innoculation was introduced at St. Petersburg in 1768, it was a fact well ascertained that the smallpox had destroyed annually *two millions* of persons in the Russian Empire.

Indeed, it has not only carried off more victims than perhaps any other one disease, but it is at the same time the most loathsome and disgusting, disfiguring for life nearly all who are fortunate enough to recover from its attack.

We know what dreadful ravages this disease has within comparatively few years made amongst the Indians residing between the Mississippi and Missouri, and on the vast plains that extend from the Mississippi to the Rocky mountains, even to the utter extermination of some tribes.

The first check that was given to it was by innoculation with the matter of small pox to produce the disease in that way. This, without reflection, would appear to be a strange way of putting a stop to its fearful ravages, but when we remember how much better calculated the human system may be at one time to resist disease than it is at another, the subject will become intelligible. To the natural smallpox persons were exposed at all times, and probably were attacked at the very time they were least able to resist; for if the contagion of smallpox consist of organized matter, of which I think there is abundant proof, as will be seen hereafter, then it is a well established fact, that the weaker the animal, be it man or animals in general, the more liable is he or they to the attacks of parasites. It can then readily be seen how much the chances of recovery were increased by the system being prepared and strengthened under a course of treatment established by experience. Hence it is not surprising that while one patient in five or six died of natural smallpox, only *one* in *sixty* died of the innoculated disease. In short, in the one case the system may be compared to an army disciplined, entrenched, and fully prepared to meet its enemy, while in the other, it is like an army taken by surprise and unable to make any successful resistance.

This practice was introduced about a century and a half ago, first amongst the Greeks in European Turkey. It was announced in England in 1716, and then gradually introduced throughout the civilized world, although it met with great opposition. It was resorted to in Scotland in 1726, and in Ireland in 1723. Between 1743 and 1750 it was introduced into this country, and in some of the West India islands, where it proved more successful in checking the fatal disease than it had in Europe. An American student, Doctor Tennet, in a thesis published at Leyden, stated that of 8327 persons innoculated in Philadelphia and the neighboring provinces, only 19 died, being in the proportion of one to 438.

But as this practice has been superseded by one more safe and far more convenient, it is unnecessary to dwell longer upon it.. The discovery of the vaccine matter obtained from the cow, which produces a disease in the human system called the cow-pox, rendering it, as a general rule, ever after proof against the attack of smallpox, was made by Doctor Jenner, who published a treatise on the subject in 1798.

This extraordinary fact was discovered by accident; the human mind would never have reached it by induction. It was first observed in some of the western counties of England, particularly Gloucestershire, where it was seen that persons employed in milking cows contracted a disease from pustules on the teats of the cows, which afforded them perfect immunity against the smallpox.

Dr. Jenner did not consider this disease to be of sporadic origin in the cow; he traced it to a disease of horses called the 'grease.' Various opinions prevailed on this subject. Some thought that the thin secretion from the horse would produce cow-pox when applied directly to the human system, while others contended that it had to pass through the cow before it could act beneficially on man.

It is however a question of no consequence: it is enough for us to know that a matter can be obtained from the cow which will produce a disease in the human system, which protects it from the smallpox.

The arm of a child being innoculated with the genuine vaccine matter, there should appear about the third or fourth day, a small red spot in the punctured part, which gradually becomes more florid, and is slightly hardened and swelled. This spot is converted on the fifth or sixth day into a small white vesicle; it is much increased in size in two days, and usually has a diameter of from one-third to one half of an inch. The edges are elevated, and in the centre there is a slight depression, which is speedily surrounded with a crust. On the eighth or ninth day, circular inflammations appear around the vesicle, increasing for three days, which are sometimes half an inch and sometimes two inches in diameter. This inflammation begins to disappear on the eleventh or twelfth day. The vesicle gradually becomes harder, and of a dark brown colour, and is at last converted into a horny crust, which in due time separates, leaving a depression in the arm which remains during life.

Now the appearance of this depression, as well as the degree of violence of the constitutional derangement, are circumstances well worthy of observation.

The more regular the depression, and the milder the constitutional symptoms, the more we depend on the success of the operation, and the security afforded.

The febrile irritation seldom lasts over twenty-four hours; and the disease is milder when produced by innoculation than when taken in the natural way from the teats of the cow. In the latter case, tumours are often formed in the arm-pits; the febrile symptoms are severe, with shivering, pain of limbs, vomiting, headache and delirium, which last for several days.

There is, however, no danger in it, as it has never been known to cause death.

In the cow, the disease which furnishes the vaccine matter appears in the form of irregular pustules on the the teats. On their first appearance they are of a livid colour, surrounded by an erysipelatous inflammation. These pustules will degenerate into tedious and phagedenic ulcers, unless checked by the application of caustics.

We have now seen that the cow-pox, although it may occasionally produce considerable disturbance of the system, is yet perfectly safe. The other point to be decided is, whether the cow-pox gives complete security to the human system against the attack of smallpox.

As a general rule, this may be considered an established fact, provided the matter be genuine, the system in a proper condition to receive it, and the implanted disease runs quietly through its course. But even in Dr. Jenner's time, there were apparent exceptions and occasional failures, creating in his mind some doubt and anxiety. There may be other diseases of the cow very similar in appearance, which do not furnish the requisite matter, or the operation may be badly performed, or the system may not be in a proper condition to receive it.

As the anxiety of parents is very great to feel assured that their children are thoroughly protected against smallpox, it may be well to advert to what is considered a safe test.

The plan was suggested by Mr. Boyce of Edingburg. It consists in making a *second* insertion of the vaccine matter at the end of the fifth day from the first innoculation. If this second application of the matter, and it should be made at the most remote point possible from the first, produces a smaller vesicle than the first, and passes through the several stages with accelerated progress, so that the areola surrounding the two vesicles are formed about the same time, it is inferred that the whole system is under the influence of the disease called the cow-pox; but if no effect is produced by the second insertion, the fact is undecided, and the impression may be only local.

The confidence in the immunity afforded against the smallpox by the genuine vaccine matter, well applied, and under proper circumstances, was unshaken until about the year 1817, when a disease called the varioloid, that is, resembling variola or smallpox, made its appearance in Great Britain, which, though not as fatal as the true variola, yet occasioned great alarm. This epidemic attacked numbers of persons who had been vaccinated, but I can find no record of persons who were innoculated by the smallpox having taken it. An inference has been drawn from this, that the variolous innoculation is a more certain preventive of smallpox than vaccination. This may be true, considering in how comparatively few cases the genuine matter is used, and the true disease produced. Yet vaccination will ever be preferred to innoculation, because, as we have seen, deaths occur from the latter and never from the former.

Besides another fact has been established, that during the prevalence of the varioloid in 1817 and 1818, persons who had been vaccinated, and it is fair to presume imperfectly, suffered much less than those who had not been vaccinated. So that if, through the imperfection of the operation, complete immunity was wanting, yet great and favorable modification of symptoms was observed.

The choice of genuine matter should then be carefully attended to. A good vesicle in a healthy subject should be selected, and the matter should be taken between the fifth and ninth days of the disease. It is most efficacious when immediately inserted into another subject, If it is to be kept, it should be allowed to dry naturally, but never by the heat of a fire. It may be preserved on glass, or on ivory, or on the point of a faucet. Mr. Bryce recommends the employment of the crust, which contains in its central part, matter that was matured at an early stage of the disease.

This dried matter when carefully procured and put up, may be transported to any distance, and will keep for a considerable time. When used, it should be moistened with water of a blood heat; but recent matter is always preferable. In all cases the matter must come in contact with the cutis vera.

The best time for vaccinating children is generally considered to be about the end of the third month, before the constitution is disturbed by teething.

The foregoing facts have been chiefly selected from the Edinburg, American, and Ree's Encyclopedias.

Perhaps no failure would ever occur, could the matter used in vaccination be always procured from the original sources, but as this is for the most part impossible, it is important in large cities that a large number of children should be vaccinated at the same time, so that an abundant supply of vaccine matter can be obtained, not much, if at all impaired, without being passed through more than two or three human systems; where it is reasonable to suppose that it undergoes some modification, until at last by transference its virtue may become entirely extinct. And as this seems to be the principal cause of failure, it becomes a question of great importance to determine how many times the matter can be transferred to successive persons before it becomes modified, or finally inert, or even mischievous.

It has been stated that the contagious matter of smallpox is of animal origin; for the proof of this I must refer your readers to the experiments of Prof. Riddell, as quoted at pages 466 and 467 of No. IV, vol. ii., of the New Orleans Medical and Surgical Journal, which in the present state of physiological chemistry are deemed conclusive.

And I entertain no doubt as to the vaccine matter being of the same origin; and that the parasites in the matter of smallpox and cowpox belong to that abundant class which we know to be so productive of disease. But why the one should prove an antidote against the other, is as much beyond the reach of human intellect as are the great laws that maintain in mysterious yet harmonious movement the planetary and astral systems. No microscope has ever yet presented to the human eye the animalcules which must constitute the contagion of small-pox, as demonstrated by Professor Riddell, or the animalcules that exist in the noxious air that hovers over marshes, as established by Moscati and Boussingault; yet the traces of animal matter detected by unerring tests, leave no room to doubt the fact of the existence of animalcules.

It may be asked, what becomes of the germs of animal life in the dried scab that comes from the arm of a person who has been vaccinated?

Such a condition of things is not at all inconsistent with that form of animal life. The wheel animalcules discovered and described by Lewenhoëck,only exhibit symptoms of life when immersed in water but they may be deprived of this fluid and made perfectly dry, so that all the functions of life may be completely suspended, yet without the destruction of the vital principle; for this atom of dust after remaining for years in a dry state, may be revived in a few minutes by being supplied with water. (Riddell.)

By vaccinating a large number of children at the same time, the matter would perhaps be transferred but two or three times before a supply of fresh matter could be obtained from the North or from Europe.

Emigrants from the north of Germany are pouring in upon us, and every now and then smallpox is found on board a vessel crowded with passengers. Persons have actually landed when there was no evidence of the smallpox existing on board a ship at the time of her arrival, on whom the disease has appeared a few days after landing. We have so far fortunately escaped any serious visitation, but it is certainly the duty of our municipal authorities to leave nothing undone that can be done, to protect our citizens from so serious a calamity as an epidemic smallpox.

I am with respect,

Yours, &c.

Wm. P. HORT.

Art. VIII.—THE PLAQUEMINES REGION.

No. 1.

> "Know ye the land where the cypress and myrtle
> Are emblems of deeds that are done in their clime."

The parish of Plaquemines is certainly a land of the "cypress and myrtle," and many a beautiful tree and shrub beside. Of the "deeds" of its people we have no intention to speak; our concern being chiefly with the land itself, its beauties and its blemishes.

The parish, or, as it has of late years been jocosely called, the *state* of Plaquemines, probably from its great size, probably from some events in its history, or probably from both together, embraces all that country on both sides of the Mississippi river, from the English Turn, thirteen miles below the city of New Orleans, to its mouths, and is divided from the parish of Jefferson on the west, by a line beginning a few miles below the city, and running through an impervious sea-marsh nearly south to the Gulf of Mexico, at which intersection it is about fifty miles west of the Balize. On the east it is bounded by the Gulf as far to the north as the river Aux Chenes, a large, sluggish bayou which separates it from the parish of St. Bernard on the north-east. Although it has so great an area amounting to about 2500 square miles, yet but a small proportion of it can be cultivated. The narrow strip on either side of the river being nearly all that can be profitably brought into use.

In other parts of the parish are either cypress swamps, too low to drain, or vast sea-marshes intersected by innumerable bayous and covered by frequent tides. There is besides a ridge of high land on the west, accompanying the river in its course at from one to three miles distance, and from one-eighth to one-fourth of a mile in width, the growth of which is chiefly live and water oaks, from which circumstance they have acquired the name of the chenaies. These extend from about 25 or 30 to 50 miles below the city. All of them it is supposed could be cultivated, as they are high above overflow and of deep, rich soil. It is a subject of speculation what could have caused such elevated ridges, so much higher than the surrounding even deposit of the Mississippi. The most probable view of which is, that they were once the banks of the river, and successive battures have left them isolated and thrown the river into its present channel with new banks. This view is corroborated by the fact that there are no chenaies on the east side, and leaves the inference that the river in the course of ages has inclined some miles to the eastward of its original channel. There are other small chenaies to the westward, one of which is inhabited, and on the Gulf coast the others are too small to be of any other use than as land-marks and camping places to hunters, fishermen, and pleasure parties boating through the labyrinth of bayous which intersect these marshes.

The parish, as far down the river as Pointe à la Hache, a distance of fifty miles, may be compared to a beautiful town with only one street, the great Mississippi. Its plantations in high state of cultivation, ornamented with handsome dwellings and sugar houses, and long rows of negro cabins, the whole arranged with a view to effect, according to the different tastes of proprietors. The orange, the lemon, the citron, the oleander, the pomegranate, and occasionally the banana and plantain, which cannot fail to produce pleasurable emotions upon the beholder. It is worthy of remark here, that a very few miles down, and near the mouth of the river, makes a difference of temperature favorable to the growth of tropical plants and trees, disproportional to the small amount of southern latitude gained and must be attributable to the more immediate action of the sea breezes. There is also a perceptible difference between the east and west bank. The north winds of winter coming across it down the river is so tempered as to do but little injury to vegetation on the west, or rather south-west bank of the river. It was observable last winter that the lemon trees on the east bank were stript of their leaves, when those of the opposite were untouched, and even hanging with fruit. The frost which occurred about the first of December this year, and remembered by every sugar planter, almost wholly spared the cane planted sixty miles below the city, and a small field seen by the writer of this on the 15th of December, presented a green appearance, with the tips of the leaves only browned with the frost. That part of the parish in the highest state of cultivation and improvement is from Mr. Packwood's above, to Mr. Osgood's below, inclusive. A full description of the improvements in the making and culture of sugar will be found in Mr. Benjamin's able article on the subject in the number of the Commercial Review for November last, and some remarks upon the whole of this "coast" will be found in a subsequent number of the same work, February, 1847, from the pen of the editor. And here, I would fain speak of the beautiful estates and hospitable habits of the planters, did not this intrench somewhat upon propriety. Of the splendid estates of Col. White, and the Messrs. Osgood and Johnson, and the hospitable mansions of the Messrs. Wilkinsons, and many others, with their different claims to admiration. Interspersed among the sugar plantations, and forming the largest number of the east bank, are some two hundred rice plantations, many not more than two arpents, or nearly one hundred and thirty yards front on the the river, and contribute to give the coast that village-like appearance which is remarked by every one.*

Art. IX.—THE IMPORTANCE OF DRAINING IN AGRICULTURE.

We thank the friend who sent us the communication below, though as far as we are privileged, *stat nominis umbra.* This is his pleasure. By the way, would it not be well not to write in hieroglyphics?—this is a hint to all contributors. We want to give another hint, and to all Planters in the South and West: communicate with us freely; let us hear your views upon practical questions in agriculture,—and heaven knows there are ten thousand such subjects. Every opinion from practical men is valuable. Let us have hints upon all the leading subjects of agriculture. Even rough notes will do if *no* more, and we will hew them into shape. It is the aim of the Commercial Review to achieve the greatest amount of good for our section of country, but we want other co-operation from men than their money,—though that is well enough, and better than we sometimes get.

To the Editor of the Commercial Review:

The article on Draining in your number for January, is of incalculable importance to Planters in this region of country. By the erection of *one* "80 horse power" steam engine, a section of country many miles in extent may be most effectually drained at a very trifling expense; indeed, I have seen many attempts at draining that have been made below the city, and am fain to inquire whether the true theory and system has not been entirely misunderstood? In short, ought not the first drain, sufficiently large and deep, to be carried parallel with the river bank, and within a short distance from it, for the purpose of receiving the water which is continually circulating through it, and spreading over the land to find its escape at the back of the plantation, where it is customary to *commence* operations, by sinking under drains or reservoirs, to receive the water that has, as I say, traversed the whole plantation, from the river bank, to find egress.

The first law in the science of draining is, that "all water must come from higher ground"; and to corroborate the truth of this axiom, permit me to detail the following successful operation performed by a particular friend of mine, in coming into possession of an estate in a neighboring county. Adjoining his house there had always been a low marsh, the water from which passed sluggishly away by a trifling run at the bottom of the swamp. This pestilential bay produced nothing but aquatic plants and tussocks of coarse grass, amongst which a sheep could not pass without being mired. Many had been the efforts of former occupants to drain this source of miasma and death, but with no beneficial results, although many of the basins had been sunk wide and deep, particularly one that had been driven through the middle of the bay, which only conducted away the water after it had "done its worst."

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* Note by the Editor.—"Deer Range," the elegant seat of Col. White, the Senator from Plaquemines, is one of the finest on the Coast. On the river it presents an imposing front, which loses nothing by the closest inspection, amid shades, and walks and rural improvements. Living with an honest and republican simplicity, but with no want not abundantly satisfied, with a hospitality that knows no limits or consideration of self, with affluence, the reward of a life of industry and enterprise, the proprietor does honor to that class of southern gentleman and planters who have ever given character to our region. His mansion surrenders itself to the rites of a genuine hospitality which seems not so much to entertain others as to be entertained by them,—their society, their converse, and their conviviality,—the host becoming rather the guest at his own board. If we have invaded rudely upon the sanctity of private life by any thing in this, which is not our wont, let us have justice meted out,—the writer of the article provoked the *note*, and out of the abundance of the heart the mouth will not be silent.

On the proprietor's first visit to this swamp, he remarked to himself, "this water must come from higher ground": and in an hour after he had commenced cutting a deep and large trench into the solid bank, which completely surrounded the swamp, a few feet from the margin, determined to go until he should strike the clay. Thus he continued, when at the depth of about seven feet he touched it, and then, after entering another foot in it, to form an impervious bottom to the drain, to prevent all chance of overflow, he began filling it to the depth of about two feet with stones,* covering these with slabs and the earth thrown out, and finishing by re-opening the middle drain, for the purpose of conveying the down fall water to the point of egress, and carrying it in the same manner. In six months, a wagon with four horses was driven across in perfect safety, where a sheep could not pass before; and the proprietor considers he has repaid the interest and a large portion of the capital expended in the improvement, in money saved in Doctors' bills, while the pasturage of the lot, covered with the finest herbage, is paying him more profit for grazing purposes than any portion of the plantation three times the extent.

In conclusion I would add, where a regular system of draining is practised, then will the value of the operation of sub-soiling be understood. At present, few soils are so much benefitted as they ought to be by the process, for want of the means of ridding the substances of the accumulated moisture. Let these be afforded and the process of sub-soiling our river lands will be uniformly practised, with the most decisive and profitable results, as well in the quality as quantity of our productions.

R. C.

Art. X.—THE UNIVERSITY OF LOUISIANA.

We have permission to publish the following letter received by us in relation to the contemplated University. The plan which it proposes we are disposed to regard very highly, and we believe that it will meet with the consideration which it deserves. Dr. Albert W. Ely, of this city, has favored us also with a plan which we will gladly give publication to in our next number. It is high time that some efficient steps were taken to organize and set in operation the Institution.

New Orleans, February 10, 1847.

J. D. B. De Bow, Esq.—

You will recollect that in course of conversation with me some time ago the subject of the University of Louisiana was introduced, when you took occasion to express your deep interest in its success, and sympathies with those who were moving to promote it. Though not susceptible of the same enthusiasm, I could not but heartily agree with you in views, and promised then what God forbid I should hesitate to perform, to co-operate in my humble way to the fullest extent of my means and abilities, in any movement which might be made to secure for our citizens what they deemed so important as to ordain in convention.

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* This might as well have been done by substituting long faggots of brush wood consisting of aquatic plants; being thus filled they have been known to run freely for a whole generation.

The fact is, we of a generation which is fast passing away, who were contemporary with the earliest days of Louisiana, who have shared the fortunes of the State in all the stages of its progress, may be allowed to feel some interest in what is to come after us here, particularly in the fortunes of that rising class of our citizens who are to preserve and extend the character of the State, and perfect what we their sires have scarcely more than instituted. The advantages of this generation are far greater than the last. The school master was *at home* and not "abroad" then. We were called upon to struggle with untoward difficulties, content, indeed, if so much could be obtained with the mere rudiments of education. Hence the surprise should not be, that Louisiana has produced, of her own growth, so few men of commanding abilities and information, but that she has produced any at all. We would, however, amend this evil, and let no one henceforward be heard pleading the past in extenuation of his deficiencies, who will not come forward with the means he has acquired here, and by a liberal appropriation of them, preserve his children, or the children of his countrymen, from a similar misfortune.

With such views and impressions I could not be entirely indifferent to the educational movements now in progress among us. Of common schools, those nurseries of early youth where character for life is formed, and well formed when efficiently organized, no one can have a higher estimate. But what after all are common schools, if the system of education must be arrested there. Is it not cruelty to implant a love of knowledge and deny its consummation? The mere elementary provisions of such schools are not sufficient to qualify men for *all* the relations of life. There is that which they can never give,—the power which influences the councils of a people; which directs and executes high national movements; which extends the domain of letters and science, and is felt in the destinies of a country and an age. Will we have this power? The popular voice of the State has wisely determined that we will.

"*A University shall be established in the city of New Orleans, of four Faculties, to wit: One of Law, one of Medicine, one of the Natural Sciences, and one of Belles Lettres.*—Art. 137 Constitution.

I know that there are many views current in relation to this University, and conflicting schemes. Some altogether too elaborate, complex, and expensive for our present condition and resources, and others little likely to be efficient. The legislature has, I think, wisely obviated the difficulty of determining between these, by adopting and passing the bill introduced by Col. Farrar, of the House, which establishes the institution generally, and confers upon an administration selected by the Governor and Senate, all the details of the system.

The Act says nothing of the number or pay of the Professors, the maximum or minimum rates of tuition, the period of appointing administrators, or of entering upon their duties, nor has there been a dollar appropriated or a provision made for buildings, apparatus, etc.

Although I have the utmost confidence that gentlemen will be appointed to the administration eminently qualified by their knowledge or practical experience, to carry out an organization suited to our condition, wants and resources, I cannot but fear that in aiming too high, or in the disposition to do too much, we shall retard the work, and find ourselves longer than is generally imagined in no better a condition in this particular than at present "resolving and resolving, and re-resolving," to "die the same," at last.

I shall be pardoned if in my anxiety upon this subject, the anxiety of one who feels that he has lived a long time to have done so little, I should venture to propose to you, who I doubt not have regarded the subject with the same care and interest, a plan plain, practical, ready and economical for an institution of the kind referred to. It is based upon a communication elicited by me from a gentleman of high scholarship residing at Baton Rouge, Professor Burke, with whom I have agreed upon material points. If I am not over confident, it is the most available plan yet suggested. I speak chiefly of the fiscal character, for upon this only do I pretend to pronounce any decided opinion. If I am wrong, the mischief will not be serious, farther than an hour's trespass upon your time, a thing that must always be submitted to patiently in this world.

But to the point: the first and cardinal consideration is, how much money do we want, and how shall we get it? This is the hinge upon which every thing turns. A University without means is a chimera of questionable shape. "Without money and without price" who shall buy and transact, who shall serve and be served, except in heaven?

Let the University partake of the nature of a joint stock incorporation, with a capital of $300,000, in shares or presentations of $1,500 each,—say two hundred presentations. How shall these be taken up?

Let the State subscribe for forty, say	$60,000
City of New Orleans, forty,	60,000
Private individuals, one hundred and twenty,	180,000
	$300,000

And first of the subscription of the State; this is a small sum to be required for so great a cause, and shall a wealthy commonwealth like ours hesitate in the matter? It will be seen directly, however, that an ample equivalent will be held out to the State for her liberality here, independently of having performed a high act of public duty. The State might be even allowed to appropriate her subscription to the *construction of buildings, purchase of apparatus, etc.*

In relation to the city of New Orleans she is deeply interested in the success of this movement. The institution will be located in her midst. It will operate most immediately upon her population and increase her rising influence. She will not find it difficult to obtain the means to appropriate, and the act will be sustained by a unanimous approval of our citizens.

The co-operation of private individuals in all public movements is always demanded, and not often refused. They will come forward with their purses to relieve their country in the hour of peril, they will subscribe liberally when the cause has been demonstrated a good and a great one. We invoke them in this instance in every part of the State to raise for the University the sum of $180,000. How many wealthy and patriot citizens have we? How many single individuals in other States have appropriated as much as we demand from all?

Can there not without difficulty be found five men in the State who will take each four shares—

Twenty shares at $1,500, - - -	$30,000
Twenty to take two shares each, - -	60,000
Sixty to take one share each, - - -	90,000
	$180,000

If considerations of public spirit be supposed insufficient to move the State, city, and individual citizens, to the extent required, others will be alleged in a few moments, which will hardly be regarded as other than the most influential every where. We will see first, however, supposing the $300,000 raised, what is to be done with it?

Sixty thousand dollars will be sufficient for the erection of proper buildings, and a sufficient apparatus for a beginning. This will leave two hundred and forty thousand dollars, which properly invested would yield an interest of nineteen thousand dollars.

Professors must be paid a fixed compensation and sufficient to render the office, as it should be, one the highest dignity and importance. Mere economical notions in these matters are ever misplaced, and defeat the best aims we have in view. The best talent of the country should if possible be commanded, and such talent must be proportionably rewarded.

Let there be then seven professorships.

President and Professor of Moral, Intellectual, and Political Philosophy,	$5,000
Professor of Natural Sciences,	3,500
Professor of Commercial and Statistical Information,	3,500
Professor of Rhetoric and Belles Lettres,	3,500
Professor of Mathematics,	3,500
Professor of Ancient Languages,	3,500
Professor of Modern Languages,	3,500
	$26,000
Interest as above,	19,000
Deficit,	7,000

We shall see directly how this and more shall be obtained.

Fixing the rate of instruction at the very low price, so as to attract even citizens of most limited means, of $50 per year (private schools charge now in the city $100) for each student instructed in one or all of the departments, the number of students could not possibly fall short of 140, the Medical College has as large a number, we have at once the sum of $7,000, the amount desired.

In addition to the 140 students, the University shall be required to instruct free of any expense or charge, a certain number of students to be presented as follows.

The State to be allowed to have always in the University twice as many students, selected from the public schools, as she has taken shares or presentations, say 120 students.

The city to have the same privilege from her public schools.

Private individuals to be in the same position, and this is a noble one, if they have no children of their own, to be *in perpetuo* a benefactor to those in humble life, eager for knowlege, but unable to obtain it. What a proud satisfaction for so small an expenditure. This right of presentation would be inheritable, alienable, not liable to taxation, seizure upon execution, &c.

Here, then, is the rough draft of a system which calls upon the State only to erect buildings; which calls upon the 150,000 citizens of New Orleans for 40 cents each; upon our men of large fortunes for a small fraction at the highest interest, and we have educated in Louisiana, in the highest branches of knowledge, 140 students paying the paltry sum of $50 each per annum, and 480 paying nothing at all.

And here, in conclusion, let me observe.

1. The capital of $300,000 is a mere arbitrary one, assured as a minimum; but let it be $1,000,000, if we please, if so much can be raised.

2. The number of professors may be increased or diminished to suit the means of the institution: the same of the rates of tuition.

The law and medical department will stand upon different and independent ground, as made to do by the late act of incorporation.

3. Academical education, with slight modification, could be made a part of the plan.

5. Additional means for apparatus, library, &c., could be obtained by collection throughout the state, from those who, being unable to give $1500, would freely furnish 5, 10, 20, or 50 dollars.

This you will perceive throws much labor upon the administrators to perform, in which, however, they will be moved by high considerations. I think the institution could succeed now upon such a basis. I am very much afraid that it will not succeed for a very long time upon any other. But I see I have written you a long letter, in the dry details of which you are doubtless fatigued. However, forgive the intrusion from the motive,

And believe me to be with high regard
Your friend,
MAUNSEL WHITE.

AGRICULTURE OF THE SOUTH AND WEST.

1.—Cultivation of the Olive in the Southern States.

The Hon. Mitchell King delivered lately before the agriculturalists of South Carolina, a learned and elaborate address on this interesting subject, with which he has politely favored us. Mr. King occupies place, among the first citizens of that commonwealth, as a jurist and scholar, and presided for some time over one of its first literary institutions, from considerations of high public spirit and feelings the most honorable to our nature. We are glad to see such men enlisted in behalf of agriculture and its elevated prosecution among us. Mr. King remarks:

> "From the first settlement of Carolina, it has been considered well adapted to the culture of the olive. In one of the earliest accounts of the country, by Richard Blome, published in 1678, it is said that the olive trees brought from Portugal and the Bermudas, increase exceedingly, and will produce a quantity of oil. And Samuel Wilson, who had been for years agent of the Lords Proprietors, repeats nearly the language of Blome, and adds, 'the inhabitants take great care to propagate, more so, that in all probability, it will be an excellent oily country.' When the charter of Carolina of 1663 was granted, the other proprietors left the chief management of the colony to the very able and unscrupulous Lord Shaftsbury. It is well known that at

his request Mr. Locke drew up his celebrated Fundamental Constitution of Carolina—but it is not generally known that for a number of years he carried on an active correspondence with the colony, in which he took the deepest interest, and it is highly probable that in 1679 he procured Mr. Locke to write his judicious observations on wine, olives, fruit and silk, with a special view to South Carolina. The troubles in which Shaftsbury was soon after involved, and his death, in January, 1683, no doubt prevented these observations from being published until a long time after. In the description of Carolina, of 1684, by T. A. Gentleman, we are told 'the olive trees thrive there very well.' Mr. James Colleton, brother to Sir Peter, one of the honorable proprietors, brought an olive stick from Fayal, cut off at both ends, to Carolina, which, put into the ground, grew and prospered exceedingly. If the olive be well improved, there may be expected from thence, perhaps, as good oil as any the world yields.' Gov. Glenn tells us, that in the intense frost of the 7th of January, 1747, probably the severest ever felt in Carolina, he lost an olive tree of such prodigious size that he thought it proof against all weathers. It was near a foot and a half diameter in the trunk, and bore many bushels of excellent olives every year.' We may conclude, that this was probably one of the first olives planted in the country, and could scarcely have been less than sixty or seventy years old. Even this terrible winter would seem not to have killed all our olive trees, for Dr. Milligan, in Charleston, in 1763, says 'we have plenty of olives.'*

Mr. King then refers to an admirable letter which he had received from J. Hamilton Couper, Esq., of Darien, Geo., from which we extract the following:

"The first and all-important question which presents itself is, whether our climate is adapted to the olive-tree: and to what portion of our territory we may hope to extend its cultivation. The facts which will be presented, are I think decisive, that the immediate sea-board of South Carolina and Georgia, the whole of Florida, and the borders of the Gulf of Mexico are as suitable for the cultivation of the olive as the south of France.

"First as to climate,—Arthur Young, in his travels through France, vol. I., p. 311, observes, 'several other plants beside the olive mark this climate, the olive climate. Thus, at Mentelimart, in Dauphiné, besides that tree you meet with, for the first time, the pomegranate, the arbor judæ, the paliurus, figs, and the evergreen oak.'

"The orange tree is found to be more tender than the olive, in France and Italy. The same writer says, 'the latter, the orange, is so tender that this, Hieres, is supposed to be the only part of France in which it will thrive in the open air. I went to Hieres to view them, and it was with pain I found them, without exception, so damaged by the frost in the winter of 1788, as to be cut down, some to the ground, and others to the main stem.'"

Simonde mentions in his work on "Tuscan Agriculture" that the olive is considered in Italy as hardier than the vine. He further observes that he himself had olives and vines planted together, and the latter suffered most from the cold. Mr Jefferson, in his letter of July, 1787, to the Agricultural Society of South Carolina remarks, "wherever the orange will stand at all, experience shews that the olive will stand well, being a hardier tree."

"These extracts, which are from writers of the highest authority, are interesting, as they show from the growth of the fig, the pomegranate, and the orange, that the climate of the olive region of France is no milder than the maritime districts of South Carolina and Georgia, and the whole of Florida. But the actual growth of the olive tree itself, proves this most conclusively, as far as the limited period which has elapsed since the introduction of that plant into this country admits of a comparison.

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* In a letter to Chancellor Johnston, Mr. King quotes from a paper by the Governor of South Carolina, in 1747, who says, "the frost has destroyed almost all the orange trees in the country. I lost about three hundred bearing trees, *and an olive tree of such prodigious size that I thought it proof against all weather. It was near a foot and a half in diameter, in the trunk, and bore many bushels of excellent olives every year.*"

"I believe that you had some olive trees growing in Charleston for half a century, before the fatal spring of 1835. Ramsey mentions the fruit being pickled from trees imported by Henry Laurens.

"At Dungeness, on Cumberland Island, Georgia, a number of trees bore abundantly for many years before that season.

"In 1825 my father imported, through a French house in Charleston, two hundred trees from Provence, via the Languedoc canal and Bourdeaux. They were five months on the way, and did not arrive until May, notwithstanding which a very few only failed to grow. These trees were planted at Cannon's Point, his residence on St. Simon's Island, latitude 31° 20; and had borne several small crops of olives, when the severe cold of February, 1835, (8° of Fahrenheit,) injured them so much that it was necessary to cut them down to the ground. They all threw up shoots from the old stumps; and many of them have now attained to a diameter of nine inches. For the last two years they have produced some fruit; and this year about one-half of the trees are bending under the weight of an abundant crop. About one hundred trees raised from cuttings are also beginning to bear. It is now twenty-one years since the importation of these trees, and with the exception of the destructive season of 1835, they have never in the slightest degree been injured by the cold. The last winter was one of unusual severity,—the thermometer having sunk to 19° Fahrenheit; and although the sweet oranges on the same plantation were much injured, some having been cut down to the ground, I could not perceive that a single leaf, among two hundred and fifty olive trees, had been touched by the frost. This experience is certainly very satisfactory, the more particularly as it is certain that the season of 1835 was the coldest known on this coast, for at least one hundred years; as is proved by the destruction of orange trees on St. Simond's Island, which had stood since the occupation of that island by Gen. Oglethorpe, and of others at St. Augustine, which dated still farther back.

"The effect of one such disastrous year should not discourage the introduction of so valuable a tree. In the south of France they have persevered in its cultivation, a lthough in 1709 and 1788, almost every tree was destroyed to the ground; and they were severely injured in 1740, 1745, 1748, 1755 and 1768.

"The question may be asked by those who have usually regarded olive oil as merely an article of household economy, of very limited use in North America, whether a ready sale of the oil can be depended on? They may believe with the late Abbe Correa, that our countrymen have 'bacon stomachs,' and that it will be very difficult, so far to conquer the obstinacy of established habit, as to induce them to substitute pure oil for rancid bacon. If the only use of this oil were for food, it would undoubtedly require time to introduce it into general consumption, but that time will effect it there can be no doubt, from the intrinsic value of the article. Until then an ample demand for all that can be produced will be found in the annually increasing consumption of this oil in machinery, and in various manufactures, particularly of wool and soap. Already we import 82,655 gallons, see Report of the Secretary of the Treasury, for 1845, and as our manufactures are comparatively as yet but in their infancy, and our population increasing with undiminished rapidity, there is no danger of the production overtaking the demand. What the demand may become is shown by the fact that England imported in the year 1830, 2,971,057 gallons of olive oil, valued then at $2,500,000—an average of 88 cents per gallon.—McCulloch's Commercial Dictionary, article 'Olive Oil.' And that France, although the production of that kingdom was as early as 1788, estimated at 75,000,000 of francs, or nearly $15,000,000, has yet imported in one year olive oil to the value of near 30,000,000 francs, or $6,000,000.

"Some idea may be formed of the value of the olive tree as a source of national wealth, from the above statement of its production in France, a country on the northern verge of the olive climate. In countries more favorably situated, it is still more important. The small kingdom of Naples exports annually about 7,300,000 gallons of olive oil, valued there at $3,400,000.

But as olive oil enters largely into domestic consumption, particularly among the lower classes, forming a wholesome and nutritious article of food, it has an importance far exceeding its merely commercial value. The ample home production of the necessaries of life, is the true foundation of national independence and happiness: and whatever adds to the unstinted enjoyment of physical comfort, it becomes the well-wisher of his country to value. It may safely be asserted that the United States owe their great happiness and prosperity more to the cheap abundance of Indian corn, and the consequent full supply of animal food, than to all of the staples which figure so largely on the list of foreign exports.

"Mr. Jefferson, with equal beauty and patriotism, observes, 'if the memory of those persons is held in great respect in South Carolina, who introduced there the culture of rice, *a plant which sows life and death with equal hand*, what obligations would be due to him who should introduce the olive tree, and set the example of its culture! Were the owner of slaves to view it only as a means of bettering their condition, how much would he better that by planting one of these trees for every slave he possessed! Having been myself an eye witness to the blessings which this tree sheds on the poor, I never had my wishes so kindled for the introduction of any article of new culture into our own country.'"

2.—AN APPEAL TO THE COTTON PLANTERS.

THE editor of the Commercial Review is indebted for the following letter:

HUDSONVILLE, Miss., Feb. 1, 1847.

Sir,—Could not your patrons from the cotton planting interest be stimulated to interchange opinions in your valuable periodical upon the subject of the cotton crop, without trenching upon the other interests discussed in the Review?

We reply briefly, that nothing in the world would please us better. We should be happy for the correspondence of every thinking planter who can spare a few moments for purposes so useful. Our work is designed as a repository of all valuable southern and western statistics and information, and with the great staples of sugar and cotton we may be supposed to be most intimately connected and identified. When we have, as it is our hope soon, the support of the Planters of all Louisiana, Mississippi, Alabama, Georgia, Carolina and Texas, besides our great commercial support, we can and will enlarge the work greatly; though at present larger than any one of the same price in the Union. Let every subscriber take our interest in hand and get us one new name, remitting the money, and it will be soon seen that our word is fulfilled. Meanwhile the cotton interests must not be neglected, indeed, they have not been, as the reader will see by reference to the pages of the volumes we have already published during this and last year. Has not our work given satisfaction every where? Modesty forbids us to go further.

3.—THE SUGAR INTEREST AND SUGAR PLANTERS OF LOUISIANA.

ON all sides there is a reported deficiency of the sugar crop the present season. Although we have not the most reliable advices from the West Indies, it seems yet to be taken for granted that there will be a falling off. The statistics of the crop which have thus far been taken in Louisiana, show a decline of from ⅓ to ½ from last year. The Planters' Banner gives the crop of St. Mary's Parish, one of the best in the State, as 14,626 hhds. in 1843; 18,139 hhds. in 1844; 24,671 hhds. in 1845; and 16,525 hhds. in 1846. The returns so far as handed in to us by the agent of the Commercial Review, Mr. Price, especially charged with the collection of these statistics, show an equal decrease in most of the Parishes through which he has travelled. Hereafter it is our intention, if possible, to publish yearly statements such as those furnished formerly by Mr. Champomier. The total sugar yield of Louisiana for this year is not estimated, so far as we can learn, higher than from 125,000 to 150,000 hhds. against

210,000 last year. This, notwithstanding the new estates taken into cultivation and the extension of the sugar region on the Red river, where there can be no doubt it will eventually become a most profitable staple. Statistics and facts on this point have been promised us by planters in that quarter which we shall gladly publish.

The following very judicious reflections are made by one of our contemporaries, speaking of the enhanced consumption of sugar in Great Britain in consequence of a reduction of duties: "From the British West Indies we can look for no increase; our own energies will be amply taxed to provide for our increasing consumption, and filling the vacuum occasioned by the attraction to the English market of a portion of the produce of the Spanish and Danish islands that has usually found a sale in ours. The Spanish islands and Brazil might supply it if they could obtain the hands, but there is the obstacle; to suppose them capable of it, would be to suppose at the same time a vast increased ratio of importations of negroes from Africa, which is not likely to take place. Their present importations of Africans, large as they are, only serve to keep their productions on a level with the demand for the rest of the world—the gates of the English market being closed to them. How, then, can they meet the increased demand consequent upon the opening of her ports.

"There are other sources in the East of inexhaustible, of unlimited extent, which can be brought to its aid. To begin with the Mauritius—this island presents a striking contrast to the West Indies, the production of sugar having increased thirty thousand tons since the emancipation of the slaves. Situated at a distance of only fourteen days from the teeming continent of India, she has been abundantly supplied with the labor of immigrants who have proved skilful and industrious workmen. The soil of the island is of the most fertile description, and a very large portion of it has yet to be brought under cultivation, offering every prospect of an extensive and progressive increase of production. Passing over to the countries on the main land under British sway, we find a population of 100,000,000 who are large growers and extensive consumers of sugar. It was at one time denied that East India sugar could compete with that of the West Indies, an illusion which the equalization of the duties quickly dispelled, the importations thence previously at zero, having risen in 1845, to the large quantity of 80,000 tons, and a certain description called Khaur Sugar, after the district that produces it, commands the highest price in the market, being sought by the refiners, on account of its excelling all others in strength. Production there has not by any means reached its maximum, and we may set down its capability, as regards soil and attainment of labor, as exceeding any developement of its resources that has yet been made. The islands of Java and Ceylon, combining a population of ten millions, are also sugar producing countries, and are likely to supply large additional quantities for export."

4.—New Products for our Country.

The Hon. Henry A. Wise, Minister to Brazil, in a letter to the Commissioner of the Patent Office, remarks:

"I have never seen any of the cotton of which you speak, from the banks of the Amazon, in the interior of Brazil. That about Rio de Janeiro grows very high, and is of a very long staple. It is longer and more silky than ours, but not so soft. It is used, I am told, chiefly in making hosiery, whilst ours is more fit for the sheeting and cloth, in the factories of Europe. It would be well for us to have it and to try its growth in soils and climates suitable. I will endeavor to procure seeds of every species of cotton and rice.

"Much for commerce and luxury both might be introduced into our extreme southern country, from Brazil. Why not coffee? Tapioco, mandioca, the great varieties of fruits, and particularly the dye-woods, the cabinet woods, and the innumerable silk and Manilla grasses for bagging and ropes? A Brazilian friend has promised to furnish me with seeds of the jacaranda tree—that beautiful black ebony-like wood which so far surpasses, in my taste, the mahogany. These, when received, I will send to you. The "nuga" tree, also of this country, might be introduced. It is a beautiful shade-tree, grows as large as our hickory, and bears a nut very similar but larger, which is used to make, it is said, the best painter's oil. It resembles the hickory in the bark and the sycamore in the leaf. The truth is, one is confounded by the question what plants to send home, such are their numbers, varieties, uses and beauties, and the doubts respecting their standing our climate. I send you a small parcel of some species of acacia. The small pods are of a beautiful flower, and the large red seeds are of a tree like the locust."

THE SCIENCE OF STATISTICS.

The science of statistics is of recent origin. Archenball, who was born at Elbing, in Prussia, in 1719, and died in 1772, was the first who gave the name and a scientific form to this branch of knowledge. His compend, originally published in 1749, went through seven editions. His most distinguished pupil, Schlossa, carried out his views still further in the excellent yet incomplete "Theory of Statistics" printed at Gottingen in 1804. In 1807 appeared Newman's "Outlines of Statistics." In the systematic and compendious treatment of this subject, Toze, Remer, Meusel, Sprengel, Mannert, Fischer, and especially Hassell, have distinguished themselves. The last named is the eminent geographer. In Italy there are the well known names of Balbi, Quadri, and Gioja. The first European government that paid any attention to the collection of statistics in a systematic manner, though this was on a limited scale, was Sweden.

About the middle of the last century a special commission was employed who made known at intervals of five years many interesting facts in relation to the population of the country, etc. Schlosser having called attention to the important results of the Swedish commission, several other States soon entered into a similar arrangement. There is now a Statistical Department, or what is termed a "Bureau" in connection with the government of Prussia, Austria, Bavaria, Wurtemburg, Naples and Sardinia. At the head of the "Bureau" in Berlin is a gentleman of great intelligence, M. J. G. Hoffman. In 1832 Lord Auckland and Mr. Poulett Thompson, who then presided over the Board of Trade, in England, established a statistical office in that department, to collect, arrange and publish statements relating to the condition and bearing upon the various interests of the British empire. The volumes annually printed and laid before Parliament by this office, are well known and highly esteemed. In the year 1831 a Statistical Society was formed in the kingdom of Saxony, which has prosecuted its objects with great energy and success. The French Society of Universal Statistics was founded on the 22d November, 1829, and is under the protection of the king. It proposes and decrees prizes, grants medals, publishes a monthly collection of its transactions, and maintains a correspondence with learned bodies in all countries. The Society numbers at present more than fifteen hundred members, French and foreign, who are classed into titulary, honorary and corresponding members. The subjects about which the Society is employed are arranged into three classes: First. Physical and descriptive statistics, embracing topography, hydrography, meteorology, geology, mineralogy, population, man considered physically, hygiene, and the sanitary state. Second. Positive and applied statistics, embracing vegetables and animal productions, agriculture, industry, commerce, navigation, state of the sciences, general instruction, literature, languages, and the fine arts. Third. Moral and philosophical statistics, including the forms of religious worship, legislative and judicial power, public administration, finance, the military, marine and diplomacy.*

The science of statistics may be considered as almost a new one in our country, it has, nevertheless, of late excited much attention, and we see from the reports of Congress and of State, down to the newspaper press, the strongest evidences of its favor and progress. Such a science is worthy of all attention, and deserves to be introduced into our schools and colleges as it is into the merchants counting house and the legislative halls, as an independent and most important branch of sound practical education.

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* Hazard.

INTERNAL IMPROVEMENT CONVENTION IN THE WEST.

It is known to every one that amongst the moving causes of the great convention which assembled at Memphis in November 1845, and among the primary objects of consideration there, was that of improving the navigation of western rivers and harbors. The people of many States united in deliberation, and agreed upon a memorial to Congress, which gave rise to the celebrated exposition of Mr. Calhoun, as yet but imperfectly understood in the country, and had an indirect influence in promoting the "Internal Improvement Bill," which the President of the United States at once rejected.

The subject appears on the eve of being again brought before the country, and will without question, as it always has, give rise to many conflicts of views and interests and be settled only, if settled at all, by a compromise between the opponents and advocates of the system meeting each other on the ground assumed by Mr. Calhoun, or upon some other of a similar character.

A movement is now being made in many of the Western States to bring the question again before the people and to pass upon it in a convention called for the express purpose of all the States immediately interested in the commerce of the western rivers. Without expressing our views upon the propriety of such a call or upon the subjects proposed to be discussed, we will furnish the reader with a copy in our next number of the Circular directed to us by Wayman Crow, Esq., President of the St. Louis Chamber of Commerce.

COMMERCE OF THE UNITED STATES.

Exports Domestic Manufactures from the United States in 1846.

The Secretary of the Treasury stated the total as $9,569,349, including $423,851 gold and silver coin, excluding the large and indefinite item of $1,379,566 articles not enumerated.

Merchandize.	Value.	Merchandize.	Value
Soap and tallow candles,	$630,041	Wearing apparel,	45,140
Leather, boots and shoes,	346,516	Combs and buttons,	35,945
Household furniture,	317,407	Brushes,	3,110
Coaches, carriages, etc.,	87,712	Billiard tables and apparatus,	1,584
Hats,	74,722	Umbrellas and parasols,	2,477
Saddlery,	24,357	Leather, morocco skins, etc.,	25,667
Wax,	162,790	Fire engines and apparatus,	9,802
Spirits from grain,	73,716	Printing presses and type,	43,792
Beer, ale, porter and cider,	67,735	Musical instruments,	25,375
Snuff and tobacco,	695,914	Books and maps,	63,667
Linseed oil and spts. turpentine,	159,915	Paper and stationery,	124,597
Cordage,	62,775	Paints and varnish,	52,182
Iron, pig, bar, and nails,	122,225	Vinegar,	17,489
" castings,	107,905	Earthen and stone ware,	6,521
" all manufactures of,	921,672	Manufactures of glass,	90,860
Spirits from molasses,	268,552	Do. tin,	8,902
Sugar, refined,	392,312	Do. pewter and lead,	10,278
Chocolate,	2,177	Do. marble and stone,	14,234
Gunpowder,	140,879	Do. gold & silver, gold leaf,	3,660
Copper and brass,	62,088	Gold and silver coin,	423,851
Medicinal drugs,	200,505	Artificial flowers and jewellery,	24,420
Cotton goods, printed and col'd,	380,549	Molasses,	1,531
" white,	1,978,331	Trunks,	10,613
" twist, yarn, thread,	81,813	Brick and lime,	12,578
" other manufac. of,	255,799	Domestic salt,	30,520
Flax and hemp, manufactures of,	12,129	Articles not enum'd, manufac.,	1,379,566
			$10,904,185

COMMERCE OF THE STATES.

1.—Exports of the Different States, 1845–46.

	Domestic Produce.			*Foreign Produce.*		
	American vessels.	Foreign vessels.	Total.	American vessels.	Foreign vessels.	Total.
Maine,	$1,299,303	$18,796	$1,318,099	$1,121	$9,148	$10,269
N. Hampshire,	2,745	2,252	4,997	—	75	75
Vermont,	215,316	—	215,316	188,504	—	188,504
Massachus'ts,	6,852,656	984,359	7,837,015	1,865,726	610,377	2,476,103
Rhode Island,	176,160	43,859	220,019	4,325	20	4,345
Connecticut,	713,796	52,116	765,912	10,000	—	10,000
New York,	24,353,483	5,232,383	29,585,866	4,853,722	2,493,825	7,349,547
New Jersey,	4,087	—	4,087	—	—	—
Pennsylvania,	3,932,579	225,439	4,157,918	574,957	18,130	593,087
Delaware,	144,045	—	144,045	2,177	—	2,177
Maryland,	5,172,550	1,571,560	6,744,110	90,751	34,194	124,945
D. Columbia,	771,347	142,344	913,701	1,062	151	1,213
Virginia,	3,245,539	283,424	3,528,963	336	—	336
N. Carolina,	384,040	30,358	414,398	—	—	—
S. Carolina,	4,610,505	2,219,030	6,829,535	2,367	16,575	18,942
Georgia.	1,075,169	1,632,834	2,708,003	—	—	—
Florida,	132,116	5,423	137,509	31,618	7,291	38,909
Alabama,	3,159,550	2,100,767	5,260,317	—	—	—
Louisiana,	21,929,201	8,818,332	30,747,523	287,099	241,072	528,171
Ohio,	208,333	144,207	352,630	—	—	—
Michigan,	251,890	—	251,890	—	—	—
Total,	$78,634,410	23,507,483	103,141,803	7,915,765	3,430,858	11,346,623

2.—Imports.—States.

	American vessels.	Foreign vessels.	Total.
Maine,	$674,146	$112,946	$787,092
New Hampshire,	10,936	4,549	15,485
Vermont,	127,223	—	127,223
Massachusetts,	10,256,942	4,934,021	24,193,963
Rhode Island,	208,045	2,444	210,489
Connecticut,	493,775	9,703	413,478
New York.	65,903,763	8,350,520	74,254,283
New Jersey,		635	635
Pennsylvania,	7,519,545	265,829	7,989,396
Delaware,	11,215		11,215
Maryland,	3,777,086	265,829	4,042,915
District of Columbia,	72,338	7,432	79,770
Virginia,	202,884	6,120	209,004
North Carolina,	239,333	3,526	242,859
South Carolina,	833,294	69,242	902,536
Georgia,	158,218	47,277	205,495
Florida,	96,419	44,165	140,584
Alabama,	119,268	140,239	259,607
Louisiana,	6,027,281	1,195,809	7,223,090
Mississippi,	831		831
Tennessee,	3,412		3,412
Missouri,	73,569		73,569
Ohio,	98,985	3,729	102,714
Kentucky,	32,958		32,958
Michigan,	154,406	522	154,928
Texas,	2,201	15,065	17,266
Total,	$106,088,173	$15,683,634	$121,691,797

3.—The Coasting Trade

Is conducted, according to the Secretary of the Treasury, by 3,174 sailing vessels of seventy-five tons and above, and 931 steamers of the same class. They are thus apportioned among the States:

	Steam.	Sail.		Steam.	Sail.
Maine,	12	1170	South Carolina,	10	35
New Hampshire,		7	North Carolina,	18	34
Vermont,	4	1	Georgia,	19	5
Massachusetts,	25	406	Florida,	18	26
Rhode Island,	2	75	Alabama,	48	24
Connecticut,	15	135	New Orleans,	99	36
New York,	189	663	St. Louis,	89	
New Jersey,	51	345	Kentucky,	40	
Pennsylvania,	112	100	Tennessee,	16	
Delaware,	6	31	Ohio,	84	89
Maryland,	24	140	Michigan,	25	65
District of Columbia,	6	7	Texas,	5	4
Virginia,	32	52			

4.—The Coal Resources and Trade of Pennsylvania.

According to the Philadelphia Commercial List, anthracite coal was first used on tide water in 1820 and the supply then sent to market, 365 tons. In Britain coal has been used since the 12th century, a charter then being granted to the New Castle miners. The English coal trade now reaches 40,000,000 tons annually.

There appears to be 503 miles of rail-roads and 417 miles of canals running to the coal mines of Pennsylvania, having been constructed at a cost of $34,000,000.

Products of the coal mines since 1820:

Year.	Total Supply.	Annual increase and decrease.	Year.	Total Supply.	Annual increase and decrease.
1820	365		1834	376,636	111,112 D.
1821	1,737	572	1835	596,603	119,967
1822	2,240	1,303	1836	683,057	86,454
1823	5,823	3,583	1837	881,476	198,419
1824	9,541	3,718	1838	737,407	154,069 D
1825	34,893	25,352	1839	819,328	81,921
1826	48,047	13,154	1840	864,414	45,086
1827	63,434	15,387	1841	808,913	55,501 D
1828	77,516	14,082	1842	1,108,050	299,137
1829	112,083	34,567	1843	1,256,312	148,262
1830	174,734	62,651	1844	1,627,235	370,923
1831	176,820	2,086	1845	2,014,888	387,653
1832	363,871	187,051	1846	2,312,514	297,626
1833	487,784	123,877			

By comparing the above with the following, will be observed the vast preponderance of the domestic over the foreign article:

Imports of Foreign Coal into the United States.

1821	22,122	1826	35,665	1831	36,509	1836	108,432	1841	155,394
1822	34,523	1827	40,252	1832	72,978	1837	153,450	1842	141,521
1823	30,433	1828	32,302	1833	92,432	1838	129,083	1843	41,183
1824	7,228	1829	45,393	1834	71,626	1839	181,551	1844	87,073
1825	25,645	1830	58,136	1835	49,969	1840	162,867	1845	85,776

COMMERCE OF AMERICAN CITIES.

1.—COMMERCE OF NEW YORK.

	Exports in 1846.			*Imports in* 1846.	
	Foreign goods dutiable.	Foreign not dutiable.	Domestic goods.	Foreign goods dutiable.	Do Free.
January,	$124,575	$36,857	$1,939,412	$4,842,884	$376,905
February,	120,255	52,248	1,673,245	4,177,952	474,360
March,	122,072	66,216	1,463,529	8,657,793	1,092,476
April,	195,518	114,927	1,998,736	4,105,393	2,228,878
May,	208,562	85,850	2,539,096	4,160,360	1,300,751
June,	223,504	93,058	3,745,687	4,605,527	1,239,006
July,	122,403	40,414	2,876,015	5,411,595	729,235
August,	167,772	39,484	2,413,782	7,585,427	826,815
September,	305,860	82,309	2,238,401	5,272,923	600,849
October,	296,240	74,199	3,354,142	2,738,997	991,449
November,	217,930	60,357	3,510,269	2,568,183	719,215
December,	118,345	65,876	4,211,300	4,279,813	537,496
	$2,223,136	$811,795	$31,953,611	$58,406,847	$11,117,435
Total, : : : : :			$36,423,762	Total : :	$70,269,811
Exceeding 1845 by : : :			3,532,100	Exceeding 1845 by	937,412

Including an import of $745,520 and an export of $1,435,220 in specie.

2.—COMMERCE OF PHILADELPHIA.

The following shows the number of arrivals at this port during the last four years, viz:—

	Foreign.	Coastwise.	Total.
1846 - - - - - -	459	6018	6477
1845 - - - - - -	387	8029	8416
1844 - - - - - -	172	7717	8189
1843 - - - - - -	372	7659	8031

3.—COMMERCE OF BOSTON.

Imports of 1846.—Coal, 185,730 tons and 149,100 bushels anthracite coal coastwise; 5,277 tons and 48 chaldrons English coal; 21,380 chaldrons from British Provinces. Import cotton, 191,764 bales; Molasses, foreign, 55,734 hhds., 3,041 tierces, 4222 bbls.; Coastwise, 13,754 hhds., 103 tierces, 1439 bbls. Flour from New York, Albany, and by Western Railroad, 500,236 bbls.; from Alexandria, Georgetown, and Virginia, 93,557 bbls; from New Orleans, 93,804; all other places, 60,526. Total, 748,123 bbls.

IMPORTS OF GRAIN.

	Corn. bushels.	*Oats.* bushels.	*Rye.* bushels.
From New Orleans - - - - - -	733,623		891
Baltimore, - - - - - -	443,015	36,879	
Philadelphia, - - - - - -	346,194	43,996	
Norfolk, - - - - - -	326,805	11,557	
New York, - - - - - -	157,202	146,398	13,650
Delaware, - - - - - -	113,496	38,550	
Fredricksburg - - - - - -	85,825		
New Jersey, - - - - - -	49,120	19,236	325
Albany, - - - - - -	45,460	74,573	2,047
Alexandria and Georgetown, - -	26,467		77
Other ports in Virginia, - - -	24,019		

Table continued.

	Corn. bushels.	*Oats.* bushels.	*Rye.* bushels.
North Carolina,	9,197		
Rhode Island	7,000		
Massachusetts,	4,500		
Maine,	2,100	42,228	
Connecticut,	460	1,500	170
Total,	2,374,484	414,415	17,160
Imports in 1845,	2,371,406	548,583	24,184

The imports of Tar, 16,756 barrels; and of Turpentine, 34,728 bbls.

The importations of Sugar, 23,964,868 pounds of brown, and 591,702 do. of white, valued at $ 1,289,869.

The imports of Coffee, 29,046,337 pounds, valued at $ 1,807,401.

There were imported in the same time 325,486 Hides and 3,067 bales of Hides from Calcutta and Manilla.

4.—Mineral Resources, etc. of Alabama.

At a meeting of the citizens of Tuscaloosa, and of the county at large, held a short time since, several important changes in the mail route was urged upon the general government, through the resolutions of the Hon. B. F. Porter. The same meeting urges the establishment of a national foundry in the State for casting cannon and manufacturing arms suitable for the equipment of troops in the service of the United States, and for the general defence of the sea-board. We regard the motion as a most excellent one, and commend it to the consideration of the whole country. The memorial of the Legislature upon the subject contains some interesting particulars as to the resources of the State:

"There are in the neighborhood of Tuscaloosa extensive fields of bituminous coal on the lands of the general government, also iron ore to an indefinite extent, also owned by the general government, from which is manufactured some of the best iron now in use here. Tuscaloosa is situated at the head of navigation on the Warrior river, and within three days of the city of Mobile. It is believed that these coal beds are nearer the Gulf than any that have been yet discovered, and as it is probable that war steamers will come into general use, they would be invaluable as a supply of fuel for war and mail steamers, from the easy access to Mobile, Pensacola, New Orleans and Galveston."

The following opinion on the same subject was passed by Mr. Lyell, when in this country:

"In some of the inferior beds of limestone, (carboniferous,) there is a great mixture of iron, and throughout the range of this formation there has been traced an enormous mass of brown hematite, which seemed to me to constitute, where I examined it, at Murphy's, thirty miles from Tuscaloosa, a regular bed rather than a vein. From the abundance, accessibility, and richness of this ore, its proximity to the coal field and to the navigation of the Tombeckbee river, I can hardly doubt that, like the coal itself, it is destined at no distant day to be a source of great mineral wealth to Alabama."

5.—The Wreckers of Florida—Key West.

A correspondent of the Charleston News gives many interesting particulars in relation to the wild life of the wrecker among the Florida Keys. "The wrecking business, as it is called is a source of very considerable revenue to the Government, and is the principal support of Key West; there are generally from six to eight vessels engaged in it. They are fine large sloops and schooners, each officered and manned by eight or ten persons. The crews generally are not on wages, but on shares. The owner furnishes the vessel with all necessary materials, provisions, &c.; and in the event of a wreck one half the amount of salvage is taken by the vessel, the other is divided among the officers and crew; that is to say, the captain receives three shares, the mate two, and each of the crew one. These vessels are generally stationed at different points of the reef, where a constant look out is kept for vessels which may perchance get ashore on any part of it, when they immediately proceed to their assistance. Sometimes, two or more wreckers will unite in saving the goods from wrecked vessels, in which case an equal share is allotted to each, in the proportion that they may save. At times, when vessels are not damaged to such an extent as to prevent them from continuing their voyages, an agreement is made between the captain and the wrecker for the payment of a stipulated price, as compensation for the services rendered. In most cases where a vessel has been relieved, she is taken down to Key West, where there is a port of entry and an Admiralty Court; in the absence of the Court, the case is generally determined by arbitration, which has been often so arranged, as to have enabled the parties interested to defraud owners and underwriters of very large amounts. In many cases, the captains of the vessels shipwrecked, for certain weighty considerations, allow the wreckers to appoint the arbitrators, who, of course, are in their interest, and would give any amount which they were required to do. I hesitate not to say, that in a very large majority of instances where owners and underwriters have been swindled, the fault has been with the captain of the vessel shipwrecked, consigning to irresponsible agents. From what I can learn, there has been a better condition of things latterly, and a state of moral feeling in the community of Key West calculated to repress the evil practices which formerly existed.

Key West being an isolated place, and having no back country, is not likely to become a town of any considerable size; the resources consisting principally of the wrecks which are almost constantly occurring on the Florida Reef; and of the *Salt Ponds*, which are now in full operation, and of sufficient extent to furnish a very large quantity of salt for consumption. The income derived from shipwrecks is very considerable, as will be seen by the following statement:

1831 - - -	$39,487 00	1839 - - -	$90,797 00
1832 - - -	46,555 00	1840 - - -	85,113 00
1833 - - -	58,128 00	1841 - - -	71,173 00
1834 - - -	32,040 00	1842 - - -	38,103 00
1835 - - -	87,249 00	1843 - - -	83,811 00
1836 - - -	174,132 00	1844 - - -	88,369 00
1837 - - -	107,495 00	1845 - - -	63,981 00
1838 - - -	34,578 00		

This gives an average of very nearly $80,000 per annum, besides the expenditures *incidental*, such as repairs, lading and unlading of vessels, cartage, storage, &c., all of which, added together, amount to a very considerable sum, and furnish employment to the laboring classes of the community.

6.—THE TRADE AND COMMERCE OF NEW ORLEANS.

	Value of Exports, 1845.			*Value of Exports* 1846.	
	Coastwise.	To Foreign Ports.		Coastwise.	To Foreign Ports.
January	$1,813,290 54	2,139,818	January	$2,753,227 58	$2,230,444
February	3,989,422 51	2,446,627	February	4,098,438 10	3,231,883
March	2,588,658 00	3,003,578	March	4,257,781 96	3,875,974
April	2,778,268 13	3,638,461	April	3,412,544 30	2,762,392
May	1,456,033 67	2,482,029	May	2,391,860 37	4,145,943
June	928,418 17	2,196,781	June	1,298,421 85	3,586,827
July	767,220 40	1,306,675	July	1,119,458 11	3,418,940
August	527,139 20	489,827	August	904,416 10	1,675,012
September	505,665 00	773,484	September	454,206 25	581,178
October	811,002 67	1,897,039	October	603,797 65	1,226,408
November	1,615,976 55	3,790,302	November	1,058,071 21	1,906,896
December	1,368,647 00	3,046,948	December	2,438,601 60	4,066,685
	$19,149,741 84	$28,211,569		$24,790,825 08	$32,707,582

Total amount of Exports, in 1845 - - - - - $47,361,310 84
Total amount of Exports, in 1846 - - - - - 57,499,407 08
Showing an increase in 1846 of - - - - 10,138,096 24

7.—The City of Lafayette.

Among the improvements so marked in our sister and neighboring city, there are none more interesting than that in relation to common schools. From the last report of the Common Council, we glean that the schools were opened in 1841 at the expense of the Council, and that up to December 1842 there were admitted one hundred and twenty-nine boys and one hundred and nine girls. In December 1843, there were in regular attendance fifty-one boys and one hundred and seven girls. In November, 1844, there were in attendance one hundred and ten boys and one hundred and fourteen girls. In November, 1845, there were in attendance two hundred and fifty boys and two hundred girls. Admissions to the night school, which was opened in that year, fifty-seven. In December, 1846, there were in regular attendance four hundred and thirty-four boys and three hundred and twenty-six girls. In the night school fifty-four pupils. Making the whole number of scholars eight hundred and fourteen.

* * *

THE PUBLISHING BUSINESS.

1.—*The Pleasures of Taste by Jane Taylor.* New York, Harper & Brothers. New Orleans, J. B. Steel, 1847.—Mrs. Sarah H. Hale, well and favorably known as the author of many pleasing works for the young, has made in this instance a very judicious selection from the writings of that excellent lady, Miss Jane Taylor, and published them in a very convenient and handsome book for popular reading.

2.—*Lives of Christopher Columbus and Americus Vespucius,* with engravings. New York, Harper & Brothers, 1847.—This is another of the useful publications of this house, intended to instruct our growing population in the incidents and events of the early history of their country, and of the men who endured the perils, the defeats, and the discouragements of discovery and colonization, a species of information which cannot be too much diffused.

3.—*The Revolt of the Netherlands,* from the German of Schiller. New York, Harper & Brothers. New Orleans, J. B. Steel, 1847.—The history of this interesting event was never more graphically and truthfully delineated than by the eminent German. It was one of those elevated contests for liberty which are ever treasured in memory as among the best deeds of men.

4.—*The American Poulterer's Companion.* By C. N. Bement. Harper & Brothers, 1847.—Every winged thing, valuable for purposes of domestic life is anatomically, &c., shown to us here, and whoever is curious in this kind of knowledge and values a good table, or would reap the reward of a good market, had better get the book.

4.—*Pictorial History of England,* No. 16. From Harpers'. The work goes rapidly on and gains in popularity. It will be completed in forty numbers. We wish we had the first fourteen.

5.—*Farmers' Library,* New York, by J. S. Skinner.—We have the January number, and repeat again what we have said before, it is the best agricultural work in the Union, deserving all encouragement. J. C. Morgan, Agent for New Orleans.

6.—*Hunt's Merchant Magazine,* New York, February, 1847.—We are always delighted to receive and notice as it deserves, this valuable work; though the editor we presume from the press of ten thousand engagements, has received our's for *fifteen months* without acknowledging its receipt in his pages. These things will however, sometimes happen, and we will not complain of our neighbor.

7.—*Southern Literary Messenger.* B. B. Minor, Richmond, Virginia. Monthly, $5 per annum.—The February number in addition to other matter, gives us the introduction and first chapter of a history of Virginia, one of the *desiderata* of our country. We hope our friend Minor's enterprise will ever prosper.

8.—*Simmonds' Colonial Magazine*, London.—Let all who would be furnished with valuable foreign commercial and statistical information, make arrangements to receive this. It is one of the most valuable works of the age.

9.—*Banker's Magazine*, Baltimore. J. S. Homans; Monthly, $3 per annum.—We refer our readers to the pages we have inserted in the back part of the Review, in relation to this journal. The work deserves the most liberal encouragement, though we regret to learn, that thus far the support has been very meagre. Should not our banks and commercial men ever seek to sustain such publications? We are sorry that our space forbids us to say more upon this head at present. Hereafter we shall do the publication more justice.

Our Exchanges.—We receive as usual, Niles' Register; Banker's Magazine; Law Reporter, Boston; Law Journal, Philadelphia; Medical Journal, New Orleans; Surgical Journal, Charleston; etc., etc.

Editor's Note.—The third month of a new year has passed, and we hope that our subscribers will send in their dues as fast as possible. Such are the improvements we are making in the work, it will be absolutely necessary to have all of its dues as soon as possible. We rely upon the liberality and public spirit of our subscribers not to permit us to be crippled. We have received a great many remittances lately, for which we are thankful. Will not all remit?

The demand for the numbers of the work for 1846, is still so great that we shall be obliged very soon to republish them. This is most gratifying to us, the edition having been early exhausted, though a large one. Orders for back numbers will be registered and supplied as soon as it can be done.

If any of our subscribers, editors or others, have not preserved *all* of their back numbers, and would be willing to part with these for *January*, *March*, *July*, or *October*, 1846, by sending them to our address, we will furnish duplicates of any month of this year, or remit the value in books or money as it may be ordered. We wish these numbers to supply a few incomplete setts.

We are obliged to Senator Johnson, Mr. Morse, and Mr. La Sere, of our State, for public documents from Washington.

The defence of *Agesilaus*, from our friend in Feliciana, is not forgotten. The warrior shall not suffer. We should be pleased to hear oftener from so able a source.

We have several valuable contributions on our table.

Progress of the Printing Art in New Orleans.

Printing Office of the Review.

Every one must have observed the great improvement in the style and execution of printing in our city for the last few years. Improved execution and constantly augmenting business, have attended a reduction of rates. At present there is no better work done at the South than in New Orleans. We could point to several offices which produce the finest specimens, but the reader will pardon us for pointing to the Review itself, which we will venture to assert is not surpassed in typographical execution by any other periodical south of Philadelphia. We allude to this in justice to Mr. Rea, whose extensive establishment deserves the most liberal support. His "Power Press," upon which the Review is worked, diminishes materially the cost of publication, and his "Card Press," of which he is the patentee for Louisiana, is of superior character. With equal favor for all the liberal proprietors of printing establishments in the city, we thought it not inappropriate in us to call attention to this. Before long we hope to publish an article on the History and Improvement in the Printing Art.

THE

COMMERCIAL REVIEW

OF THE

SOUTH AND WEST.

ESTABLISHED JANUARY 1, 1846.

J. D. B. DE BOW, EDITOR AND PROPRIETOR.

VOLUME III. APRIL, 1847. NUMBER IV.

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THE

COMMERCIAL REVIEW.

VOLUME III.] APRIL, 1847. [NUMBER IV.

Art. I.—HISTOIRE DE LA LOUISIANE.*

In order to understand the nature of things we must ascend to their origin. The old philosophers in forming their theories of the universe always went back to a history of creation; and Moses opens his theology with the account of order evolved from chaos. So the modern physiologist has found out that the best way of studying life and its developements, is to observe the germ and its motions. To understand the character, condition and laws of a people, we must examine minutely the facts connected with their origin; for those facts contain the principle of national growth and increase, and, it may be, of national decay and death. The inquirer into causes is always attempting to reach the beginning of things; for as the effect necessarily follows the cause, he is ever searching for the antecedent of a consequent. And although it is much less difficult to trace the necessary sequence of events in the physical than in the moral world, little knowledge is required to perceive that there exist in the latter as well as in the former, general and fixed laws which govern nations and individuals.

The history of this country affords excellent materials for inquiries into the origin and progress not only of our special society, but of society in general. The facts of American colonization throw light on the remote past as well as on the present and the future. No colonial settlements have been so accurately observed and described as those of

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* Histoire de la Louisiane, par Chas. Gayarré, vol. II.—See Commercial Review, vol. I., No. V.

North America; and of course we thereby understand better the general history of all colonies, ancient and modern. The early history of most nations is covered with the clouds of superstition, or the mists of poetry; but ours has been written for us by men skilled in observation, and been transmitted to us with all the exactness and fullness which printing bestows.

Spain, England and France were the principal founders of colonies in the New World; and we find that each of these powers has kept its colonies a length of time proportionate to the popular spirit infused into its institutions. Thus, France has long since lost hers, while Great Britain still retains a considerable portion of her settlements. Hence we may conclude that colonization is more dependant for its success on the people than on the government. The history of Louisiana illustrates the different tenacity with which the three European powers have held their possessions. Discovered and settled by the French, Louisiana passed first into the hands of the Spaniards, and then, after a short interval of French re-possession, into the hands of the representatives of England on this continent. As the second volume of Mr. Gayarré's history is mostly taken up with the cession of the territory to Spain, we propose to examine the circumstances which led to and immediately attended this important event in the annals of Louisiana.

Soon after the treaty of Aix-la-Chapelle, the French government appeared to conceive vast ideas of colonial conquest and aggrandizement. Many ships were added to the navy, and active preparations for some important project were made in the ports of Brest and Toulon. The views of France seemed to be directed more especially towards North America and India. An attempt was made to form an alliance with Spain, and the Spanish ministry was favorable to the plan. But these intrigues were defeated by the British agent, Keene; Ensenada was disgraced by Ferdinand, and an Irishman, Mr. Wall, was elevated to the place of Prime Minister. About the time these overtures were made to Spain, changes were effected in the administration of the French North American colonies. M. de Vaudreuil, who had been for some years governor of Louisiana, was sent to Canada. Mr. de Kerlerec supplied his place in the southern colony. For several reasons it is probable that the object of these changes was not mere ministerial caprice, but that they were parts of a general plan for uniting Canada with Louisiana, and for the consolidation of the French continental possessions. M. de Vaudreuil, by his long residence in America, was supposed to be well acquainted with the resources of the country, and with the dispositions of the Indian tribes; and as the anticipated operation against the English were to be carried on chiefly in the North, it was better to have such an agent in Canada than in Louisiana. Whereas in case of a naval attack on New Orleans, a probable occurrence from the character of their future foe, a naval captain such as M. de Kerlerec, would be more qualified than an army officer, to repulse the enemy.

At last, in 1755, the rupture between France and Great Britain became inevitable; and the first blow of the war was struck by a young Major, WASHINGTON, destined to be the chief actor in a struggle even more important than that about then to occur between the two most powerful nations of Europe. The contest for colonies, as it may be called, was carried on in almost every quarter of the globe; and the immense naval resources of England, directed as they were, by the skill and energy of Pitt, necessarily gave that country the advantage over her adversary. After nearly six years of war, the Duke de Choiseul proposed to open negotiations with Pitt, and offered terms such as any other person but the English minister would have willingly accepted. Pitt, in turn, made his demands, and haughtily said that no fewer sacrifices would be received from the French government. Negotiations were consequently broken off, and were not resumed until after the Belleisle expedition. Then the demands of Pitt were less arrogant, and a treaty might have been made had not events occurred which caused the French monarch to care less for peace.

In 1759 Ferdinand the Sixth, of Spain, died, and was succeeded by his brother, Charles the Third. The new king was more friendly to Louis the Fifteenth, and less peaceable in disposition than his predecessor. Accordingly, an effort to bring France and Spain into the closest alliance was attended with more success than that made before the commencement of the war. On the 15th of August, 1761, while negotiations were still pending between Pitt and de Choiseul, the celebrated "Family Compact" was entered into; and in order to make the Spanish alliance useful to France, it was necessary to keep up the war with England. Hence de Choiseul proposed that in the treaty between the Most Christian King and His Britannic Majesty, the king of Spain might intervene, that restitution of certain Spanish ships should be made, that permission should be given to Spanish subjects to fish on Newfoundland, and that the English wood cutters in Honduras should be withdrawn from the Spanish territory. This was enough to set the British minister on fire. He immediately wrote to the French minister, expressing his astonishment at such an unusual proposition, and wished to know of Mr. Wall whether the Spanish government had authorized France to offer such terms. Spain acknowledged the French act, and Pitt immediately saw that not only must hostilities with France continue, but that her ally would become a party to the war. Hence he proposed, in council, to seize the plate-fleet of Spain laden with the treasures of the Americas, and thus give the first blow to the new adversaries of England. His colleagues, however, were not prepared for so bold an enterprise;—the king objected, and Pitt resigned. Lord Bute succeeded him, and though the new premier carried on the war vigorously enough, he soon found that in order to maintain his place it was necessary to make a peace. Accordingly, early in 1763 the treaty of Paris was signed.

During the course of the war, M. de Kerlerec was continually praying for supplies from France. The Indians complained that they received no presents from the governor, and threatened, in case such a state of things continued, to pass over to the enemy. But the French government, pressed as it was on all sides, could find little time to think on the condition of Louisiana, or for means of furnishing its languishing colony. On the 31st October, 1761, two months and a half after the family compact was signed, the French ambassador at Madrid, presented to the court of Spain a memoir in which, to use the language of Mr. Gayarré, he made a humiliating avowal of the weakness of his government, and implored the support and protection of Spain in aiding France to keep Louisiana, by representing to her that this territory would serve as a barrier between the English and Spanish colonies. This reasoning was so much the more forcible as Canada had passed almost entirely into the hands of the English. The French ambassador suggested that Spain might furnish supplies very readily from Havana; but Spain was slow in answering the demands of her ally. M. de Kerlerec continues to ask for aid, and on the 10th February, 1762, he writes to his government thus: "Courier after courier arrives from the Cherokees, demanding that I determine either to abandon them or to furnish the supplies which I have promised, and which are requisite for their defence. I ask them to be patient, but patience is a virtue unknown to them, and they have no resource but to make peace with the English, aud turn their arms against us who cannot give them even the powder necessary to defend themselves, for we ourselves will want the means of repelling their incursions. The Choctaws and Alabamas are in the same situation, as well as all the other tribes. This is, in short the position of Louisiana." Although the means of M. de Kerlerec were so scanty, he did signal service for the Spaniards among the Indians, so as to receive the thanks of the viceroy of Mexico, and of the governor of Pensacola.

In June, 1762, the long expected vessels arrive; but the objects sent were either unsuited to the taste of the Indians or of an inferior quality. The governor complains; and at the same time writes in high praise of M. Foncault, the new commissary-general. De Kerlerec, however, seemed to have been deficient in the talent of administration, and the commissary-general plainly says so to the government. The probability is that even had the supplies been more adapted to their purposes, the governor would have failed in satisfying his Indian allies. Meanwhile, in endeavoring to assist France, Spain herself suffered severely from the English. The Gibraltar of the New World, Havana, was taken by the British, and thus they got the command of all the Spanish commerce in the gulf of Mexico. As some compensation for the losses Spain had suffered during the war, the French court made an offer of Louisiana to His Catholic Majesty, and on the 13th of November, 1762, the gift was accepted. The cession, however, remained secret, France continuing to hold the colony in her name, so that in 1763 we find the French monarch disposing of a part of Louisiana, and assisting to make out its new boundarics. We give from Mr. Gayarré's volume a translation of the seventh article of the treaty: "In order to establish peace upon solid and durable foundation, and to remove forever all matter of dispute in relation to the limits of the French and British territories on the American continent, it is agreed that hereafter the boundaries between the States of His Most Christian Majesty and those of His Britannic Majesty, in this part of the world, shall be unalterably fixed by a line drawn in the middle of the Mississippi river, from its source to the Iberville river, and thence by a line drawn in the middle of this river, and of Lakes Mauripas and Pontchartrain to the sea; and to this end the Most Christian King gives up altogether, and guarantees to His Britannic Majesty the river and port of Mobile, and all his rights and possession on the left side of the Mississippi river, excepting the town of New Orleans and the island on which it is situated, which shall continue to belong to France; it being well understood that the navigation of the Mississippi river shall be equally open to the subjects of Great Britain and those of France throughout its whole length, from its source to the sea, and particularly that part which is between the said island of New Orleans and the right bank of the river, as well as the entrance and departure by its mouth. It is, moreover, stipulated that the vessels belonging to the subjects of both nations shall not be stopped, visited, or subjected to the payment of any duty whatever, etc., etc." By the same treaty, eighteen months were granted to the inhabitants of that part of America ceded to Great Britain who did not wish to live under the new government, for selling their property to British subjects and removing from the territory. At the same time Spain yielded up to Great Britain all her continental possessions in North America west of the Mississippi.

But although the several European nations, parties to this treaty of Paris, were satisfied with the terms of it, the Indians had no idea of being thus summarily transferred from one sovereign to another. The Cherokees, Choctaws and Alabamas were especially irritated against the French; not only because their lands had been given up to the English, but also because certain presents which had been promised by the Governor of Louisiana had not been sent to them. M. de Kerlerec in writing to his government an account of the dispositions of the Indians, and of their demands, says: "I think it will be better to give the savages the presents for which we are in arrears, notwithstanding the state that the treasury must be in after a long and disastrous war: 1st. because these presents have been legally promised and we have received an equivalent for them in real services; 2nd. because we shall thus secure the affection of the Indians, and their attachment preserved by tradition from generation to generation, will be useful to us in case France should wish to enter forcibly into the possessions from which she has been forcibly expelled."

Soon after sending the despatch, a part of which we have just translated, M. de Kerlerec was recalled to France, and confined in the bastile for certain charges made against him by M. d'Rochemore. A new Governor, d'Abadie, was sent out by the French Government; and from these two facts we see that France, although she had ceded Louisiana to Spain, not only furnished officers for the colony, but also took some interest in the administration of its affairs. Some weeks after M. d'Abadie's arrival at New Orleans we find in a memoir sent to France by Redon de Rassac, who, as Mr. Gayarré suggests, probably occupied an official position in Louisiana, certain reasons why the colony had never flourished. The memorialist sums them up as follows: "1st. Under M. de Vaudreuil, half the married women sent to Louisiana were fifty or sixty years old and had no children; 2nd. Their families, or the greatest part of them, have been put below the English Turn, in a marshy and unhealthy country requiring constant labor to keep up the levees; add to this, the poverty, misery and debasement of the men and the prostitution of the women; 3rd. The officers carry on commerce and make slaves of the soldiers; add thereto the unworthy pillage practised by them and tolerated by the Governors, and the dissipation of the soldiery; besides drunkenness, quarrels and duels, have destroyed one half the inhabitants."

Indeed Louisiana was so troublesome and expensive to France, that it was a great object with her to get the colony, as soon as possible, out of her hands. In the year 1764, M. d'Kerlerce, who was still in the Bastille, presented a paper to the minister advising him to make a commercial depot of Louisiana. A ministerial note annexed to this document shows in what light it was regarded by the French Government. "As there are," reads the note, "in this paper some details which would lead the Court of Spain to anticipate a rupture with the English and thus make the cession of Louisiana less agreeable, it will be best to re-model this memoir and render its facts more interesting to the Court of Madrid."

In a despatch dated the 21st of April 1764, M. d'Abadie was notified of the cession to Spain in the following words: "Monsieur d'Abadie: Having by a private act passed at Fontainebleau the 3rd November 1762, ceded fully and wholly and without any reserve to my very dear and well-beloved cousin, the king of Spain, and to his successors and heirs, all the country known under the name of Louisiana, as well as New Orleans and the island on which it is situated, and his Catholic majesty having by another act passed at the Escurial and signed by the king of Spain the 13th of November of the same year accepted the cession of the country of Louisiana and of the town of New Orleans, conformably to the copy of the said acts which you will find subjoined, I write this letter to tell you that my intention is that on the reception of this present and the annexed copies, whether they come to you through the officers of his Catholic majesty or directly by the vessels taking charge of them, you deliver into the hands of the Governor or officer especially appointed by the king of Spain, the said country and colony of Louisiana and the posts belonging to it, together with the town and island of New Orleans, as they may be on the day of said delivery, desiring that in future they should belong to his Catholic majesty, to be governed and administered by his Governors and officers, as belonging to him wholly and without reserve.

"I order you, consequently, as soon as the Governor and troops of this monarch arrive in the said country and colony, to put them in possession, and to withdraw all the officers, soldiers and employees in my service who may be there in garrison, and send into France or into my other American colonies, those who do not wish to remain under Spanish authority.

"I desire, moreover, that after the entire evacuation of the said port and town of New Orleans, you collect all the papers relative to the finances and administration of the colony of Louisiana, and come to France in order to give an account of them.

"My intention is, nevertheless, that you remit to the said Governor or other officer appointed, all the papers and documents which specially concern the government of this colony, either relative to the boundaries of the territory or relative to the Indians and the different posts, after having withdrawn all the receipts necessary for your discharge, and that you give to the said Governor all the information you can to enable him to govern said colony to the reciprocal satisfaction of the two nations.

"My wish is that there should be a double inventory singned by you and the commissary of his Catholic majesty, of all the artillery and all the stores, warehouses, hospitals, vessels, &c., which belong to me in the said colony, so that after having put the commissary in possession of the vessels and public buildings, an appraisement may be made of all said effects remaining on the ground, of which the price will be reimbursed by his Catholic majesty on the foundation of said appraisement.

"I hope, in the meantime, for the advantage and tranquility of the inhabitants of the colony of Louisiana, and I promise myself in consequence of the friendship and affection of his Catholic majesty that he will give orders to his Governor and every officer in his service in the said colony and town of New Orleans that the ecclesiastic and religious houses which fill the curacies and missions continue their functions and enjoy the rights, privileges and immunities granted them by the titles of their establishment; that the ordinary judges, as well as the superior council, continue to render justice according to the laws, forms and usages of the colony; that the inhabitants be secured in their property and goods, according to the grants made by the Governors and administrators of said colony; and that said grants be held and reported as confirmed by his Catholic majesty, although they may not have been so by me; hoping, moreover, that his Catholic majesty will give to his subjects in Louisiana the same marks of protection and benevolence which they have experienced under my rule, and of which the horrors of war have alone prevented them from feeling the greatest effects.

"I order you to register my present letter in the superior council of New Orleans, in order that the different states of the colony may be advised of its contents, and that they may, on occasion, recur to it, the present being for no other end.

"I pray God, Monsieur d'Abadie, to have you in His holy keeping. *Signed* LOUIS, and *below*, DUKE OF CHOISEUL."

M. d'Abadie, however, was not destined to transfer Louisiana from France to Spain. On the 4th of February 1765, he died, leaving M. Aubry in command of the colony; and it was only after years of trouble and vexation that M. Aubry was able to carry out the plans of his royal master.

Of course when the colonists heard that a new king and a different people were to be put over them, they were much excited and determined to make such representations to the French government as might induce it to change its intentions. Accordingly a meeting of the citizens was called and the parishes were invited to send delegates to New Orleans. The principal persons of the province met, Lafréniére, the Attorney-General, being the leading member of the assembly. It was resolved to send a petition to the king of France praying him not to cut them off from the mother country; and M. Jean Milhet, a merchant of New Orleans, was chosen as the bearer of the petition.

On arriving in Paris, the first step of M. Milhet was to see M. de Bienville and obtain his aid in the performance of his mission. The old man readily gave it; for nothing could be more repugnant to his feelings than the cession of a colony which he had been chiefly instrumental in building up. M. de Bienville accompanied the merchant in his visit to the minister; but how could it be expected that a colonial *bourgeois* and a decrepid old soldier would be able to engage the duke de Choiseul in any measure requiring an increased economy in the court, and a consequent diminution in the pleasures of the courtiers?

In the meantime, the Spanish government was slow in taking possession of its acquired territory. It was not until the year 1765 that a Spanish officer was appointed to receive the colony. On the 10th of July of that year, M. de Ulloa wrote from Havana, informing the superior council of New Orleans that he had been ordered to perform this office, and that he would in a short time proceed to execute his commission. But Ulloa did not arrive at New Orleans until the 5th of March 1766. His reception by the citizens was such as might have been anticipated; they appeared gloomy and dissatisfied. The council asked him to exhibit his powers; he refused on the pretence that he did not yet intend to take possession, saying at the same time that he had nothing to do with the council and would treat with M. Aubry only.

Besides the natural difficulties of transferring a people's allegiance from one monarch to another, there were financial difficulties in the way of a quiet transfer of Louisiana from France to Spain. The French government had issued bonds for the payment of the soldiers in its service, and these bonds were still unredeemed. They were scattered throughout the colony, and, of course, the people wished to know what was to be done with them in case of a change in the government. A long time had intervened since these bills were put out, and they were then circulating in the country at a discount of 75 per cent. M. Foucault stated these circumstances to Ulloa; and although the latter had received no instructions on the subject, he promised that on his receiving the government, he would publish an ordinance requiring the Spaniards to take them from the French at their current value. The French were informed of this; but it had little effect on them. Ulloa then sent out agents to buy up the bonds at 75 per cent. discount; few sellers, however, were found, inasmuch as the holders of them hoped the king would redeem them at par.

Another difficulty arose from the refusal of the French soldiers in the colony to enter into the service of Spain until the Spanish troops arrived. Ulloa had brought only ninety men with him, and it was impossible to hold the country with such a handful.

No formal transfer of the colony had yet been made, but Spain was in 1766, to all intents and purposes the owner and ruler of Louisiana. On the 6th of September of that year, M. Aubry published a commercial ordinance in the name of His Catholic Majesty, and at the instance of M. de Ulloa. Besides, the French government had accepted no bills of exchange drawn on it by its officers in Louisiana, since 1763. These circumstances ought to have opened the eyes of the colonists, and shown them that they were really the subjects of Charles the Third. But no; the merchants presented a remonstrance against the ordinance of the 6th September to the Superior Council, which Ulloa had pronounced to be without any political power whatever. It might be said that the king of France by his letter to d'Abbadie, had given an implied guaranty that the old forms and laws should continue in force, and consequently that the Superior Council still retained its political power. Really, however, Louis the Fifteenth had only expressed a wish that his cousin, the king of Spain, would keep up these forms and laws. Also, in the beginning of 1767, Ulloa offers to lend Foucault the money necessary for redeeming the disowned bills of exchange drawn on France, and promises to pay all the expenses of the colony since his arrival there. The offer was a proof of Ulloa's goodwill, and the acceptance of his promise shows that Foucault considered him the real governor of the country.

About this time, some misunderstanding arose between the two governments as to the time when the liabilities of France for the expenses of Louisiana terminated and those of Spain began. Some of the views of both governments may be seen in the despatch of M. de Grimaldi to M. de Fuentes, the Spanish ambassador at Paris. "Ulloa arrived at New Orleans the 5th of March, 1766. He did not then take possession for motives already explained. M. de Praslin will remember that there were some doubts as to our acceptance. But as the same reasons which made France believe the cession necessary led Spain to accept it, the king received it, although perfectly aware that we did so at an annual expense of from two hundred and fifty to three hundred thousand dollars in consideration of a negative and distant benefit, to wit, that of possessing a country in order to keep another nation out of it.

"Moreover, nothing has been stipulated as to the time when Spain should take possession, and it ought not to be matter of astonishment that we have not been in haste; for if the colony is useful we have lost our profit; if it is not, why hurry ourselves to run after a burdensome weight? This is the reason, Sir, why we are surprised that the Duke de Praslin expects us to pay the expenses incurred since 1763. There is no more reason for it than for demanding of us all the expenses incurred by France since the settlement of the colony. This claim is more singular, inasmuch as, from the time of the cession to the arrival of Ulloa, France has enjoyed all the advantages of the commerce of the colony, and even now continues to enjoy them while we are defraying all the expenses. Not a single Spanish vessel with merchandize has yet been in Louisiana. All that have been there were French. Would it be just for France, having retained the use of the country, to demand of Spain the expenses of the colony before the latter had put her foot in it?

"The king, always unwilling to predjudice in the least the interests of the most Christian king, his cousin, although he has known from the beginning that the colony would be unprofitable, although M. de Ulloa has not taken possession of it because he has not the support of the French troops on which he thought he might rely, and although the commerce has been for the benefit of the French, the king, I say, has declared that he will defray all the expenses since Ulloa's arrival.

While the two governments were thus discussing the matter of expenditure, M. Milhet returned to Louisiana, and thus ought to have convinced the inhabitants that all hopes of a continued connection with France were lost. Meetings were held in different parts of the country, and at length a second convention was held in New Orleans to take into consideration the affairs of the colony. Lafreniere took the lead; and, at his suggestion, an address to the council was voted, praying the expulsion of Ulloa from the province. On the 29th October, 1768, the council decreed the expulsion of Ulloa, Aubry protesting against it; and on the 31st the Spanish governor sailed for Havana.

The planters and merchants of Louisiana published a memoir justifying the course they had taken; and in order to give an idea of the commerce and commercial notions of that period, we make some extracts from it. "* * * * To make our first cause of complaint more evident, we must observe that the trade with the Indian nations is one of the principal branches of commerce. The interest of the trader is so united to that of the agriculturalist, that one cannot exist without the other. This trade furnishes an outlet for the products of several manufactures, and may, by encouragement, be extended. It is an abundant mine of wealth, and promises treasures worth more than the metallic veins of Potosi, and the more considerable the deeper the trader digs. From this source flow public and private benefits. The merchant finds a lucrative market for his commodities; the laborer, employed in these expeditions and this trade, finds means of subsisting and of amassing a little capital. The affection of the natives is kept up by intercourse with the French ready to procure them the articles now become necessary to them. In fine, the public safety, which has been brought about by this trade with the barbarous tribes, is by it preserved. But this is not the only benefit which arises from it to the colony in general. The ships from Europe and the islands, drawn hither by the hope of an advantageous return, bring in provisions of which we are in need, and finding in our warehouses peltries on which they expect to make a profit, these provisions are distributed to us at a moderate price; otherwise, if the ships were obliged to return in ballast, the price would be excessive. These facts, these real advantages have been considered by our ministers when they have by their order encouraged the traders and recommended freedom in this branch of commerce. The truth of them has been recognised and expressly declared by the Duke de Choiseul in his letter to M. d'Abbadie, dated 9th February, 1765. The whole northern part of the Mississippi and the north-west of the Missouri, were then opened to our enterprise. Numerous tribes, rich in rare peltries and inhabiting these unknown regions, would, in a short time, be conquered by our manufactures alone. The discoveries to be made in these fine countries would be reserved for our efforts, and our eyes would first pierce, for the good of the world, this part of the world yet to be explored. How encouraging to us were the intentions of this wise minister! We beheld him, with transports of gratitude, not only lend his aid to the re-establishment of our fortunes shattered by the misfortunes of war, and to the increase of our resources almost destroyed by the conditions of the peace, but also extend his views to geographical discoveries, and trace for us on the same plan the road to fortune and to glory. A brilliant project which M. de Ulloa has deranged, and would doubtless have overturned! Let us not seek to penetrate his motives, but confine ourselves to an examination of his obstinacy and of his efforts against the freedom of trade. They were first manifested by a general prohibition. The inhabitants and merchants in the Illinois country first cried out against it. They represented through M. St. Ange, the French commander at that post, that their ruin was certain, and the danger inevitable of being pillaged and perhaps massacred by the savages, who, not entering into political considerations, wished to be furnished with our goods and to trade constantly with their peltries. Notwithstanding the opposition of M. Rici, the Spanish captain sent by M. de Ulloa into the Illinois country as commander, the traders have this year gone into the villages, with the difference only that they have been reduced to a certain number; but this was the last effort of their expiring privileges, and M. Ulloa, about the same time, granted to five or six individuals the exclusive trade in these regions, which our ministers would have kept open to all.

"The timber trade is another object which engages the merchant here, whose interests are, as we have said, so closely bound to those of the agriculturalist. In the representations made to the Superior Council of the province, it has been stated that the trade in timber amounted to five hundred thousand livres every year, and this has not been contradicted. This trade, which is open to every one in proportion to the force under his command, and is always certain to yield a profit in this proportion, is the first object to which the husbandman directs his attention on commencing, and continues to receive his attention after he is settled. Take away the freedom of trade in Louisiana, shut up the market for the sale of timber, and you immediately reduce the merchant and colonist to idleness and famine. The ordinance published the 6th of September, 1766, only threatened this misfortune. His Catholic Majesty, we were told, informed by M. Ulloa of everything touching the furnishing and developing of the country, wished to favor the inhabitants so far as to permit the trade in timber with vessels coming from St. Domingo and Martinique, until Spain might have the means of carrying on the trade. But what probability was there that this time would ever arrive! It was plunging in the dagger gradually, and the final stroke was the decree. In the first article it is said, that the cargoes shall be made up only in the ports of Seville, Alicante, Carthagena, Malaga, Barcelona, Corunna, &c.: in the eighth, that the return cargoes shall be for the same ports. In the third article, the vessels clearing for Louisiana shall be Spanish built, and the captains and crews Spanish or naturalized. Finally, in the fourth and ninth article, voluntary stoppages in any American port even under the Spanish rule, are prohibited, and forced stoppages are subjected to proof and other onerous duties. Did there then remain to us any hope for our trade in timber with the French colonies of St. Domingo and Martinique, the only places where the commodity was valuable? Imprudent and unthinking critics on our conduct in the present revolution, may, by problematical combinations, attempt to restore the interrupted harmony and reconcile us with the decree; but they must first point out to us the means of subsistence.

"Besides, what appearance of resources can remove our just apprehensions? The produce of our land and our commerce consist of timber, indigo, furs, tobacco, cotton, sugar, pitch, and tar. Furs have very little value in Spain, as they are not much used there, and even those used are done up in foreign countries. Havana and Peru furnish her with sugar and timber much preferable to ours; Guatimala, a superior indigo, and more than their workmen consume: Peru, Havana, and Campeachy, cotton; the Isle of Pines, pitch and tar; Havana, and the Spanish portion of St. Domingo, tobacco. Our raw productions, inferior to those of its vast possessions, useless and superabundant in its ports, are rejected and reduced in value. What a feeble return must we then expect from the exportation made to the ports to which the decree sends us! On the other hand, the few manufactures established in Spain, joined to the small aid which the maritime towns receive from internal agricultnre, force the subjects of his Catholic Majesty who live in these towns, to draw their provisions of every sort from foreign countries. Marseilles supplies corn to these ports, which cannot get their provisions from their own country without paying enormously for a difficult transportation over a mountainous country. The whole nation is the tributary of the manufacturing countries of Europe, and Providence has remarkably favored it by making it mistress of Peru and Mexico, and thus furnished it with the means of buying its necessaries. Rich by our industry only, can we hope that Spain will foster it and give us a good price for it, when she is obliged to buy her own at great expense? Nothwithstanding the momentary exemption, promised by the decree from, from all duties on goods sent to Louisiana, these facts known to the whole world, together with the certain fall in value of our productions in the ports of Spain, make us fear that our crops, although abundant, far from recompensing us as formerly for our application and industry by giving us superfluities, may cease to supply us with the pure and simple necessaries of life."

From these extracts we not only learn some of the grievances complained of by the colonists, but we perceive something of their habits of thought and the boldness with which they advocated certain principles of trade and commerce. But their remonstrances addressed to the French king were of no avail. The minister looked coldly on the deputies sent by the colonists to deliver their address, and told them that they had nothing to expect of him. The king of France could not take back his gift, and the Court of Spain, after having formally decided on keeping Louisiana, entered upon measures necessary for maintaining its authority there. Lafreniere and some of his friends thought of forming the colony into a republic, and of placing it under the protection of England; but while the project was under consideration, General O'Reilly, the new governor arrived. On the 24th of July, 1769, he was at the Balize with a force large enough to overcome all opposition. The leading rebels against the Spanish government were the first to offer submission to the new governor; and they soon found that they had to do with a man of firm and energetic character. One of his first acts was the condemnation to death of several of the ringleaders in the late rebellious movement; and although this might appear cruel to the French of that time, we can hardly censure O'Rielly gravely for it, particularly if we consider how loose must have been the ideas of a Spanish soldier of that time on the subject of treason. It is well known what an important revolution O'Reilly effected in the laws of Louisiana, but an account of these changes belongs more properly to a history of our jurisprudence than to a general history of our State.

With the departure of General O'Reilly from the colony, and the arrival of Don Luis Unzaza as his successor, Mr. Gayarré closes the second volume of his history. We thank him for the pleasure he has afforded us in the perusal of so many of the documents connected with the annals of the State; and, as our readers may perceive, we have given several long translations from the work. We hope that he will soon let us have the continuation giving an account of the Spanish dominion in Louisiana; and we have a guaranty that this part of the work will be with him a labor of love, inasmuch as from certain indications in the present volume he seems to regard the Spanish cause in the most favorable light.

Art. II.—A FEW NOTES FOR SUGAR PLANTERS.

The greatest sum of knowledge acquired with the least trouble, is, perhaps, that which comes with the study of the few simple truths, the basis of the laws of Nature, and which the observing mind finds beautifully written out in natural language, speaking volumes of wisdom to him who moving through the world trains his eye to observation, and his mind to reflection. Very many of the phenomena of nature, which to the uninformed appear prodigies, are only beautiful illustrations of fundamental knowledge, which is not an oppressive weight, but a charm that sustains the student in his labors, and enables him to add to his store every new and important tact, giving it place and relation until each acquisition successively elevates a structure of correct proportions and increasing strength, which at last becomes a fortress of enduring knowledge. It is a common prejudice that persons possessing instruction in general laws extending over the wide field of what is termed education, have had their attention too much divided, and can know nothing perfectly, but the very reverse is true; for general knowledge renders all particular knowledge more clear and precise, and is a foundation already laid, to be built upon at any angle. The ignorant man may be said to have charged his hundred books of knowledge with single objects, while the informed man makes each support a long chain to which thousands of useful things are attached. The laws which govern nature in all her works are to us keys, which, properly applied, give free admission to the mysteries of her palaces and gardens; are the wards of her magic power which unveil the face of the universe, and disclose endless charms of which ignorance never dreams. A man reading a thousand volumes of ordinary books, as agreeable pastime, will receive only vague impressions, but he who studies the methodized book of nature, converts the great universe into a simple and sublime history, which tells of a Creator, and may worthily occupy his attention to the end of his days. In seeking an enlarged view of things, we are too apt to overlook the very objects of our search, and too late in life discover that our habits of observation are entirely general and superficial, instead of being close and particular.

Things that are seen, felt, and heard, that is, which operate on the external senses, leave on the memory much stronger and more correct impressions than where the conceptions are produced merely by verbal description, however vivid; and an author of an essay or a volume may often hear his readers and critics say "he has written well, but told us nothing new;" thus, unwilling to confess ignorance of what their pride whispers they ought equally to have been possessed,—or as if novelty and originality should be the inducements to a writer. But in the rudiments of knowledge only, very few of us are sufficiently familiar, and with reference to this familiarity persons who take a philanthropic view of the world, will observe with pleasure that those of their fellow travellers in life who are most generally informed and familiar with the laws which govern matters, are men most fertile in resources, more independent of others, and therefore more reliable upon themselves, and the contributions which the world at large receives from such hands deserves a greater recompense for their more extended benefit.

The agriculturalist will esteem vegetable physiology as the highest branch of natural science, and will observe that it depends absolutely upon an exact knowledge of parts and constituents, and that any attempt to investigate the important laws of vegetable life must necessarily be abortive without a strict acquaintance with the not less important details of organization. And by this is not meant merely a general idea of external form, or a vague notion of internal anatomy, but the most precise knowledge that the nature of the subject will admit. This, in the sense of perfection in one branch, and exclusive study therein; but how much more is to be acquired for practical utility by more general observation at first, and thus surrounding the subject from the borders, make regular approaches toward the centre. The farmer confines his labors not solely to the production of wheat, nor the planter exclusively to the culture of the cane or the cotton plants, but each must likewise attend to his crops of corn, of hay, vegetables, etc., each governed by its peculiar laws of re-production, which must be conformed to with little deviation. Neither is vegetable life the only branch for their attention, while they have to provide the animal power to perform the labors of cultivation, and it takes not long to discover that the greater part of the phenomena of organic and inorganic life are merely chemical and physical phenomena modified by an additional principle.

Intuitively, we learn the rotation of the seasons, and the planter adapts his labor thereto, with definitive result. The seed is not placed in the ground in mid-winter, nor a harvest expected in mid-summer. But beyond these things, which are only the routine of common existence, the intelligent mind finds the field of observation opening with extended view, as it progresses in the ever constant labor of adapting existing means to desired ends.

The cultivation of cane would not be attempted on land where water constantly stands, for it would be vain, while the same locality would produce a crop of rice with little labor. And beyond this, aside from the facility of inundation, we learn that the rice will grow in comparatively dry land, and that "flowing" is not absolutely necessary to its production. The cultivation of the same plant successively for several years, is found to impoverish the soil it is said, if continued on the same field, and while some of our neighbors are warm on the subject of rotation of crops, others have almost equal confidence that the powers of the soil may be sustained by deep ploughing, proper manuring, or returning to it the otherwise useless trash of its production. This necessity of rotation in crops being now proved by the experience of the planter, he is led to discover that nature herself, unassisted by art, brings about the same ends. The pine forest, destroyed by fire, is soon replaced by oaks and other trees. The mangrove swamp having existed for a century, even until successive contributions of its leaves falling upon the water, and there detained to decay, by the floating roots of the same plants, at last accumulate material and elevate the soil above the level of the water, when the mangroves die and are succeeded by the cane-brakes. With them come the numerous grasses, the seeds of which planted by the wind, soon take root and thrive until their production, together with that of the cane, again raises the soil to another level, whereon the stronger trees of the forest succeed.

Plants require different organic matter at different times, and are not always prepared for the natural vicissitudes of their existence; wherefore we observe that protracted rains, drought, temperature, all, sources of nutriment as agents of nature to the plant, produce definite result upon its growth, but different one time with another, and it becomes desirable to know how to make best use of such incidents. For this purpose the knowledge of vegetable anatomy and physiology, by which we may in a measure comprehend the structure and causes of increase, will lead to a better understanding of the wants and material necessary to each plant, and how these supplies may be best obtained and administered, to the attainment of more profitable results.

Since the discovery of the microscope the world has learned not only that plants breathe, feed and digest, but how the functions of breathing, feeding and digesting are carried on. It has been ascertained by what means an increase of dimension is brought about; how their want of locomotive power has been compensated for, and by what precise means their reproduction and multiplication are placed beyond obstruction by any natural impediments. In short, the exact use of every plant for its various parts has been distinctly ascertained, and in the end the vegetable kingdom is rendered subject to the power not only of man's physical energies, but of his mental resources.

The two great sources of food to plants are the soil and the air, and consequently we observe that they take their nutriment only when resolved to liquid and gaseous forms, whatever be the shape in which it is administered. And these elements of their nutrition are the great primitives of creation, carbon, the gases, earths, and metalic bases. But each plant has not the same demand as others for these respective aliments. To the cereals, to which belong the rice, corn and cane plants, nitrogen is essential, and water, the great source of production becomes indispensable to their growth. The glossy coat of the reed tribe and the outside membrane of the cane stalk, etc., are attributable to silex taken up from the soil, and the absence of which in old cane lands is supposed to be the secret of their poverty. To remedy this deficiency, the combustion of the "shuck" is practised, but a second thought will show to an intelligent mind that the silex, liquified by fire, combines with the alkali of the plant-ashes, and becoming vitrified by heat, is restored only in an insoluble state not available to vegetation, and operating beneficially only to heavy or moist soils, by its mechanical distension of their components, facilitating the action of the air more uniformly throughout. For the same reason we mix heavy bog earth or alluvial soil, with loam and sand. In the beautiful camelia japonica, we find a peculiar demand for hydrogen, and therefore supply it with water, the principal source of this gas, protect the plant from the sun to provide against too rapid evaporation from its roots, having placed it in a soil consisting chiefly of vegetable fibre, which thus sheltered has an affinity for moisture, while its decay produces the element chiefly in demand. Nitrogen is a not less important food for cereals, and is chiefly supplied by the decomposition of water. It is the principal ingredient in *gluten*, which by the vital action of the cane becomes transformed to saccharine, and though drainage may be the great labor of this southern country, because of the surplus of water on its soil, yet there are other available methods to compensate for this superabundance of water, and productive of effect in a greater or less degree. An excess of moisture without heat, and combined with air, induces decay in seeds, and is injurious even to growing plants, as it destroys the delicate tissue of their roots. Therefore plants cultivated where they have an abundance of heat and moisture, but where the roots are beyond the reach of air, by reason of their depth in the soil, have a tendency to produce leaves instead of fruit, and all their secretions are weakened. And on the other hand too little moisture prevents the leaves and fruit from maturing. Hence we derive the maxim, "plant deep on dry, and light on moist ground."

We observe that all woods growing in warm, moist climates, are lighter and more porous than those growing in colder and dryer situations. There is also a marked difference in their durability commensurate with their density. They arrive at an earlier maturity, and all vegetation partakes of similar construction, grown on similar soils. The soft and pithy woods, too, yield only weak and watery saps, and it is but in few plants belonging to the same climate, that oils or extracts exist in quantity sufficient to work out. They are not formed, or will not rise without a certain degree of heat, and it is well known that frost arrests all currents of circulation. The secretions all are diminished by reduced temperature. The fruit of the walnut and the beech in the south of Europe produces oil, but will not in this country. The mulberry of this country affords a much less quantity of gum to the silkworm than in France or Italy; and the ground-nut oil, so common in the East Indies, as well as cocoa-nut oil, are not known in the West Indies as articles of commerce.

That all the secretions of a plant have a definitive purpose in the vegetable economy, is beyond a doubt, but that these purposes are not yet definitively known, is equally true. We have no satisfactory explanation of the cause of fragrance in flowers, neither its use to the plant. The saccharine contained in the seed is the primary motive power in its vegetation, and from this source is eliminated the other juices which tend to the future nourishment of the plant. Germination having been effected, the development of the roots under ground, and the stalk and leaves above, is at once produced by the additional moisture attracted by vital action from the air and soil. This moisture is decomposed by the greater attraction of the carbon of the seed for the oxygen, and carbonic acid is set free. The nitrogen contained in the gluten of the seed, by its union with the acid, is converted into diastase, a substance resembling sugar, from which the young plant now takes all its nourishment, until by more sufficient extension, it becomes able to feed itself.

The formation of the vital knot, or "collet,"* which has been compared to the heart in animals, now becomes more and more distinct, and as it approaches perfection is proportionably more essential to the life of the plant. At this stage the wounds received from the implements of cultivation, or the hoof of the animal drawing the plough, are more liable to prove fatal to the shoots of the cane, or the new plants from the cotton seed, than at any other period of their growth, and the prudent planter will watch with some care that the mule or horse does not travel on the "ridge row."

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* The joint of the cane underground.

The cane plant increases from its centre, but has no sensible pith or medullary canal. Its tissue is but a bundle of woody fibres, interposed by an infinity of little cells. The long succession of these fibres is interrupted at regular distances by joints, sometimes distinguished as nodes, which perform an important part in the econamy of the plant. Sap, as it rises through the collet, is little less than water, with some mucilage, in the young shoot, but as soon as these nodes are formed, they become receptacles of little particles of gluten, starch, and sugar immediately formed, and these are thence taken up by the sap, dissolved, and pass into the general circulation of the stalk and leaves. The sap of the sugar maple and the cane is not sweet in their roots, but in beets, as though the operations of nature could be reversed and produce the same results, we find, comparatively, no saccharine in the tops.

The cortical integument of the cane plant is only a rind and not a bark, as it has no distinct separation from the wood. It is possessed also of properties of secretion, contains a coloring property and oleaginous substance, which the body of the cane does not, and which are both extracted in the common operation of rolling by powerful mills. This coloring matter is strictly tannin, and the oleaginous is readily separated from the froth of the mill-strainer, and converted into wax. In the circulation of the juice both of the maple and the cane, as well as in all plants, we observe changing qualities in the various parts and times of its circulation. The nearer approach to maturity in the tree, enriches its juice, and the little of returning sap found in trees felled during winter and exuding from their cut ends, is almost concentrated by a short exposure to natural evaporation. We observe, then, that during the annual existence of a plant, while the vital current is in motion, a regular and constant change in the juice at every stage of maturity, and the different properties it posseses during this progression, deserve constant attention. It is the vital action which converts the sap to sugar, and when the motion that belongs to vitality is arrested by frost, the conversion to sugar also ceases. Cane juice once frozen has but an uncrystalizable sugar, and yet the canes being only "frosted," are taken to the mill and still yield sugar, because congealization having taken place only on the ends and surfaces, protects the center from the same change, as the covering of snow protects the earth in winter from the deep frosts, which would entirely destroy the roots it contains. But so soon as these frozen portions of cane juice are free to move, chemical power alone is left to them, and with extraordinary rapidity they then circulate in the sap as the active principle of fermentation, which in a very short time extinguishes all traces of sugar to the great loss of the planter. This stagnation of the juice in the cane, by which its vitality is affected and its properties changed on the re-application of heat, is a phenomenon parallell to the fermentation of juice exposed at a moderate temperature to the free circulation of the air, which all planters know to be injurious in proportion to the length of time and degree of temperature, and therefore expedite the process of sugar making as much as possible.

The nodes of the cane, incorrectly called joints, by microscopic examination are found to be the ovaries of the plant, and from which start one, and in some varieties of the East India cane two buds. By a peculiar arrangement of the fibres of the center, a little cell is formed, in which, as in seeds, a concentrated portion of sugar exists to afford nourishment to the germ until of such age as to obtain its own. And in this protection of the vital spark by portions of the mother plant, stronger and more indurated than all the rest, we observe the beautiful work of design. In stubble or ratoon land, where the stems have been cut from the plant, we observe that the collet, or lowest joint, becomes the seat of life and the source from which in succeeding seasons reproduction takes place. Injury to this, therefore, is fatal to the plant. As spring advances, the soil becoming warmer, the circulation under the collet commences, and the old stem sealed against the exit of the sap by the dead-wood above ground, prevents its escape and forces it to find new outlets. Here again the microscope developes to the eye numerous little bright spots upon the collet, which soon increasing become at first buds and afterwards shoots. This process of reproduction we can at once see by analogy with all other vegetation, cannot last many seasons in canes, were we not convinced by the result of experience, that canes not only run out in a few crops, but also degenerate and become weakly and small. The shoots starting from a short distance beneath the surface, are sufficiently near to the air to receive warmth and moisture, from which they then derive their chief nourishment, and at a later day should be covered lightly with earth, when it becomes more essential to protect them from the sun. At this age of the plant, (not more than at others, however,) it is plain that all its nourishment must be taken up from a liquid or gaseous state, and we can scarcely conceive that such inorganic matter as silicon or flint, should be conveyed mechanically to its every part, but must be organized from its secretions. Everything that can act as manure, would apparently be only soluble substances, and we see minerals, earths, metals, and vegetable fibre, undergoing decomposition and assuming new combinations of their elements, to aid in the new developement of vegetable life.

As is the lime to the animal kingdom the base and principal material in the construction of its frames, so is silex in the vegetable world. It is what hardens the rind, the bark, the stem, and the limb, and, aside from the fluid contained in cellular substance, is the chief cause of gravity. All parts of the animal are nutriment to the vegetable kingdom, and no constituents of the former have been discovered to be noxious to the latter. Yet vegetables and plants are susceptible to poisons in a common way, by means of their circulation. Innoculation with arsenic will kill the lilac, and a solution of nux vomica, introduced by the veins to the hop-vine, is fatal in a few hours. Prusic acid in minute doses, changes the bright green of the ash-leaves to the dismal yellow of autumn. The roots, too, of plants take up solutions which, though not fatal to themselves, may be of deleterious influence to animals feeding upon them, and form distinctly an observable influence upon their own secretions, proved by tests applied to the extracts made from their barks. It is observable, therefore, that the amount of their acid secretions may be influenced by the application of alkalies, lime, amonia, &c., to the roots, as is known to be the case on the sorrels, and may be inferred to be upon canes, which fact every planter should prove for himself. In some districts of Louisiana where shell is abundant, this could be well determined, and for how many seasons its beneficial effect should last, as well as the detail of the application of lime as manure to sugar cane, might be proved and given to the public.

It is not to be forgotten that sugar is a solvent of lime, and if any method can be discovered by which its use can be dispensed with in the process of clarification of cane-juice, a decided advantage to the operation of sugar-making will at once appear. Besides that the alkalies neutralize the acid, they lessen the quantities of sugar in the result, and incline that result to a redish color. However, the *use* of lime in sugar-making is not fully understood, and many planters now make their crops without it. To the soil, it is the great solvent of all

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vegetable fibre, and in like manner is potash; but when their caustic properties are lost or consumed, they are no better than limestone or coal ashes, both of which mixing with the more tenacious clay, make it friable and porous, more pervious to water and less retentive of moisture; therefore not all cane lands can be equally benefited by these applications. Our own, and the practice of our neighbors, must be the guides to all useful results in the application of manures, mode of tillage of canes, process of sugar making; to simplify and perfect all of which, should be the object of constant study, experiment, and observation of every planter. We are all in want of some practical information on these subjects as well as many others connected with the interests of the planter. In the rotation of crops a question lays, is it better to turn cane land to grass, to peas, or corn first, and by what succession is the first object best accomplished? And again, with which crop to apply manure, if with any and not to all.

It is not for us now to go farther into the practice of planting, but from this brief view of a few of the points of common interest, enough of the field has been laid open to show the extent of the land, to what degree the planter becomes his own chemist, and how, dependant upon himself and his own resources, it is plainly necessary that *he* should consumate his own advancement. To effect this, he cannot stagger blindly forward, hoping by various chance experiments to stumble upon some great improvement, but must, if for no other than the sake of economy, study first the probability of success. He must know enough of the laws of nature and the rudiments of science, not to attempt impossibilities. To employ his agents successfully, he must surely understand their nature, and the mutual influence which they exert on each other, he must understand more fully the structure and functions of plants—the office performed by each of their members, &c. Many of the errors which are committed in agriculture, would be avoided if the planter would consent to unite a larger portion of scientific information with his practical skill. In such case, he would not apply the same manures indiscriminately to all soils; he would not suffer land to lie waste which might easily be rendered productive; nor would he be content with a meager crop from soils which, with moderate outlay, might be increased in their fertility fourfold.

We are far from supposing that any scientific knowledge can supersede a practical acquaintance with cultivation, but it is the help-meet to the husbandmen, and the knowledge which he gathers from personal experience, will teach him not to disregard the light which may be afforded by the experience of others, and by the researches of science. The crucible, the retort, and the lamp of the alchymist, though they have not yet revealed the philosopher's stone or the elixir of life, wisdom and wealth have been acquired to the world, and the whole human family benefitted by the developements which these vain researches have given. One man attempts what the laws of nature have forbidden, and by his example benefits his fellows. Another attempts an object practicable in itself, but by means totally inadequate and inappropriate, opens a mine, and expends a fortune for machinery and labor, where the geologist could have foretold a failure. Another proposes to increase the heat of his furnace by forcing in steam instead of air, and discovers that the fire instead of being increased is extinguished; a result which a slight knowledge of chemistry would have prepared him to expect. A third projector prepares a vessel for submarine navigation, but not estimating properly the pressure of water at different depths, is crushed to death during his first experiment. It is plainly important, then, to gather from science the light necessary to protect us from the delusions of an excited imagination, and to guide us in the way of safe and profitable enterprise.

An instructed laborer is enabled to become an improver of the art in which he works, and even a discoverer in the sciences connected with it. He is daily handling the tools and materials with which new experiments are to be made, and daily witnessing the connected operations of nature, whether in the changes by motion or the chemical relation of bodies, and the opportunities which he eminently possesses, must pass unimproved if the artist have no knowledge of principles. But with this knowledge, he of all men, is most likely to fall upon something new, which may be useful in art, or curious and interesting to science. His practised eye in the field, and dexterous hand in the manufactory, may enable him to embrace many opportunities afforded, which he would otherwise pass unheeded by. The processes, too, being often on a large scale, and consequently very expensive in many cases, it becomes the more important to devise means of saving labor and material, while the very magnitude of these operations often brings out facts and principles which would otherwise have remained imperceptible. But the importance of scientific attainments is most apparent when we consider, that in any department of arts, every enterprising operator ought to be informed of the improvements which have preceded his labors in that department, otherwise he may consume time, labor, and money, in merely reproducing what has long existed, and perhaps in a shape preferable to that of his invention. It is obvious that after the first and most important principles have been acquired, and there seems to be a light over the whole subject of search; there will be still many difficulties to be met, many obstacles to overcome, and toilsome days and nights consumed, in the nice adjustment in our mind of what we acquire, to render it applicable to practicable purposes. Half the labors of great mechanics, such as Whittemore, the inventor of the card machine; Perkins, of the nail machine; Jaquard, of the carpet-loom; who were originally men of small acquirements in early education, might have been saved if at first they had been instructed in the principles of mechanical science. Accident sometimes casts up important improvements in such a way that the artist can hardly fail to seize upon them, but in these cases even, it will be generally found that only the man of science can perfect these improvements.

Watt confessed that the knowledge he acquired from the lectures of Dr. Black, on chemistry, though but hints, to his studies and the mathematical and mechanical attainments he derived from study with such a man, alone enabled him to perfect those great improvements, the beam and the condenser, to his steam engine, which were the patents of his noble fame. Arkwright is quoted as an uninstructed mechanic, and he devoted *five* years to the perfection of his spinning-jenny, now considered a very simple machine. Sir Humphrey Davy discovered the peculiarity belonging to mephitic gas, after a long series of labors, and but then applied it to practical utility in his safety lamp for miners, and it is stated by Lord Brougham that the new process of sugar refining, through the aid of animal carbon, by which more money has been made in a shorter time and with less risk and trouble than was ever, perhaps, gained by an invention, was discovered by a most accomplished chemist, and was the fruit of a long course of experiments, in the progress of which known philosophical principles were applied, and new principles ascertained. The great chemist, whose improvements in the manufactures of iron were the foundations of a princely fortune, owed it entirely to the result of deep research and long continued study of coal, by which he was at last enabled to substitute the mineral for the vegetable in the smelting of iron.

We are to infer from these illustrations and examples, that no eminence can be attained in any profession, nor particular success in any calling, without study and labor, and that to secure the result for which we strive, we cannot plod on in the dull routine of life, half blind to what is doing in the world around us, allowing ourselves to be surpassed by other laborers, possessed of inferior opportunities, but a perseverance and observation which secures to them the benefit of all they see, and a comprehension of all they observe. The seeing eye and the working hand, and the mind which conceives all things, are the only guarantees to ultimate success to the planter, the manufacturer, and the merchant. Our independence is hereby secured, that unaided by others, we can produce the cane, make the crop, and sell it at the best time, and highest price, then turn to our plants and rattoons of the succeeding season with a consciousness of capacity for our labors which shall be the sweetest and most constant reward of our toil, and surety for our success. L. B. S.

Art. III.—THE PLAQUEMINES REGION OF LOUISIANA.

No. II.

The whole of the parish of Plaquemines, as is well known, is alluvial, formed by the deposits of the Mississippi, and is perhaps the last formation of land upon the earth. This is true of the whole lower valley of the river, and it is supposed to be the work of many centuries, but of the lower part of the parishes it may be said to be the work of comparatively a very short time. Within the memory of persons now alive the tillable land in some places was but a short distance from the front, and lands now in cultivation were subject to the tides. Lands surveyed since the year 1800, and declared by the surveyors to be free from the overflow of tide-water only three acres, are now in cultivation nine acres back from the river. The distance of the river from the gulf in some places, has increased from one and a half to three miles. So long as the river above had freedom to overflow its banks, and a thousand outlets for its waters, the rise, overflow, and consequent deposit below must have been comparatively trifling. When in course of time the lands above, and on the river were settled, and levees made confining the river to its channel, the deposit in this lowest part of its course must have been large and rapidly made. We find that plantations leveed even twenty years ago have in some places a bank on the outside of the levee a foot higher than the land inside. These deposits form the richest imaginable kind of soil, intermixed with more or less sand, as they have been made, rapidly or slowly. The heaviest portions only of the matter held suspended by the water being deposited when in rapid motion. Hence we usually find the points upon the river containing more of sand in their soil than the bends. From Point à la Hache, which is fifty miles below the city, and having a depth of nearly a mile of tillable land, to below the Fort St. Philip, on the same side, the strip of land not subject to be covered by the ordinary tides, becomes more and more narrow until the tides and the river occasionally intermingle their waters. This strip is of variable depth, say from three to ten arpents, and one or two points even exceed ten arpents. The timbered belt varies in width from one mile to nothing; and a very short distance below, the fort entirely disappears on either side. The growth consists of cotton wood, sycamore, swamp dogwood, willow, myrtle, wild pecan, hackberry, elm, ash, bay, live oak, water oak, cypress, and persimmon, from which last the parish takes its name.

The rise of the river at Point à la Hache, or the difference between the highest and lowest stage of water, is six feet. At New Orleans it is said to be twelve feet; at Fort Jackson, below, only four feet.* What then becomes of that vast body of water which raises the river twelve feet at New Orleans, and only four at the forts, which are but seventy miles below! Can it be the increased rapidity and volume of the current? Is evaporation an item of sufficient importance to be taken into account? There is no outlet for the water from the city to the forts, and the diminished amount must be accounted for on some such principle as the above. On the east bank the land falls towards the sea very rapidly, being three feet for the first three or four arpents, and a gradual declination afterward of about three feet more to one mile, when the land runs off into wet sea marsh, covered by the daily tides. When the banks are less than six feet, of course the fall becomes less as the level of the sea is supposed to be at low water mark of the river, or very nearly. On the west bank the land falls more slowly from the river, and is all the way more deeply wooded. The chenieres beginning where this inclination stops, there is formed a larger reservoir of water, which planters on the front find it difficult to drain; their canal and bayous, even when circumstances are favorable, being barely sufficient to carry off so large a quantity of water. But when adverse tides and heavy rains happen together for any length of time, they are often productive of much damage. It is the opinion of many, that the east bank, below the cypress swamp, possesses in this particular an advantage over the west bank, though probably more subject to encroachments from the sea. Yet the rapidly receding tides leave the land in the same state as at first, the water remaining so short a time as to have but little more effect than a heavy rain. Even this could be prevented, by having a levee around the field of from two to four feet in height, with gates to drain the rain water when the tides were out.

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* At Baton Rouge the rise is sometimes as great as thirty feet.—EDITOR.

Deep and frequent ditches, with good levees and gates are all that are requisite to make the lower coast, from Point à la Hache to the forts, that "*terra incognita*," the most beautiful and productive planting and farming countries in the world. The country below is, in particular; because that above is well known, and it is believed that the lower port of the parish possesses advantages in health, temperature, climate and variety of productions, that are not shared by that above. As a rice growing country its superiority is not denied by any one who is informed upon the subject. Under the rudest system of agriculture, and the most inferior implements and machinery, thirty bushels of cleaned rice is now obtained from fields sown broadcast. Under a better system, and with the certainty of being able to drain from the river, when the wants of the crops require, heavier returns can be expected.

The experiments made in the culture of tobacco have resulted in the production of a fine article, and what perfection could be obtained when knowledge and experience are brought to bear upon it, remains to be seen. Ginger grows well in the gardens, and is thought would make a profitable crop for market; mention has been made of its superior adaptability to the growth of sugar cane, and also to the orange, lemon, citron, fig, banana, plantain, pine-apple, olive, and most of the palm tribe, all of which the writer has seen in luxuriant growth, with the exception of the palms and pine-apple. A banana was seen by him, which bore the last year a head or spike of eighty bananas; an old orange tree, from which were sold the last season, twenty-two hundred oranges, besides a great number which were eaten,—the price here varying from one dollar to a dollar and a half per hundred. Many persons lead an easy and lazy life, under the shade of their orange and lemon trees, and upon the sale of their fruit; some orchards being the sole property of the owner, producing fifteen hundred to two thousand dollars, supporting him without labor of any kind, even the trifling exertion of gathering their fruit.

All these beauties and advantages of Plaquemines might exist to but little purpose if nature had withheld that first of blessings, without which there can be no enjoyment. But to her other gifts it may safely be said she has added that of high health to its inhabitants, and no where are people so free from disease and so likely to live a long life of uninterrupted health as in the parish of Plaquemines. The first circumstance to be noticed in proof, is, that there are not six planters in the parish who do not reside upon their plantations, and with their families. There is no place where the young are more healthy, the men stouter, and the aged of both sexes more hale and vigorous. Taking the past year as a test, there has been but two deaths of white adults among the residents, both during acclimation and from exposure. Of six hundred men within the parish engaged in the oyster trade, leading exposed and irregular lives, not one death has been known. But should a change of air or place be desirable, within a half day's journey by land and water of every plantation, lie numerous islands of shells and sand from fifteen miles to one hundred yards in length, the waters about which abound in oysters, turtle, crabs, and fish of every description known to southern seas. Delightful fishing excursions are often made to these islands at leisure times of the residents and others, and one of them, Breton island, fifteen miles in length, is inhabited by a family. One or two more will have summer-houses upon them in the course of another season. The Island of Grande Terre, though not in the parish, is still convenient by means of the bayous, through the sea marsh to the west and is a delightful resort, superior in every respect to the Mississippi gulf shore, which has of late years attracted so many people in search of health and pleasure. It is the opinion of persons who know both places well, that the bathing, fishing, and sailing advantages of the bay of Barataria, with its romantic islets, its bluff shore in the pass, and slowly receding shore elsewhere, very far exceed similar advantages offered by Biloxi, Pass Christian, and other watering places on that shore.

On the island of Grande Terre is situated Fort Livingston with a dozen or more houses belonging to the Government, some of which are occupied by its officers and agents with their families, whose kindness and hospitality to persons visiting the island, is remembered by many. There is besides, the plantation of Mr. Gordon and the summer residence of Mr. Robert Wilkinson.

In addition to all the well known sports of fowling, fishing, sailing, &c., it may be interesting to mention here a new species practised on the islands. On first reaching any one of them not inhabited, you find large quantities of eggs dropped by the innumerable thousands of sea-fowl which fill the air and water, and whose cries almost deafen the intruder: in order to obtain with certainty those that are fresh, the eggs found on landing are all broken. In the course of one day and night many bushels may be gathered, of the size, and answering all the purposes of hen's eggs, and by some preferred.

There are in the parish of Plaquemines, 46 sugar plantations, with 4,250 slaves, which yielded last year about 12,060 hogsheads of sugar, and 580,000 gallons of molasses. Ten of that number are prepared with apparatus, and are making white sugar of fine quality. There are 238 rice plantations, yielding about 15,000 barrels of cleaned rice. Upwards of 500 men are engaged in the oyster trade, 150 of which number fish the oysters from the bays, the rest are employed in conveying them to New Orleans. For this purpose 170 small luggers, sloops, and schooners of from 5 to 15 tons burthen, are in use for five months in the year. During the summer months they find employment in carrying shells from the islands to the forts and to the city. These made into concrete by a mortar of lime, sand, and hydraulic cement, make the most substantial and imperishable wall known. For public works in progress of erection, the city streets, and ornamental walks at private residences, the demand for shells affords good summer employment for this class of persons. From the best information to be had on the subject, the parish of Plaquemines sends a weekly supply to the city of New Orleans, of at least 4,000 barrels of oysters, amounting during the season to about $100,000.

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Art. IV.—THE CIVIL LAW,—FROM HIENNECCIUS.*

SECTION 36. Since at first the chief priests and the jurists had all these things, i. e., forms of legal proceedings, in secret, Cn. Flavius, the scribe of Appius Claudius, made them public; and this collection was called the FLAVIAN LAW.

Section 37. For this cause the jurists being indignant, and fearing that their former influence in the forum might be diminished, composed nine formulæ, and kept them in their houses, written in unintelligible characters. But, truly, even these mysteries were made public by S. Ælius Catus, a man remarkable for prudence, the author of the ÆLIAN LAW, from which the TRIPARTITA, or *Three Parts*, of the same seem not to have been different.

Section 38. From the time the Decemvirs passed the laws of the twelve tables, various laws and various decrees of the commonwealth came forth, by which something was added to those laws, or they were explained or amended, in which number was principally the *Aebutian Law.* P. Manutius, A. Augustinus, F. Holomannus, P. Memla, have written of the laws and decrees of the commonalty.

Section 39. And laws also were passed by the whole people, the Senate and the commonalty. A magistrate of the Senate introducing the law, whence, also, they are called by Tacitus, DECREES OF THE PEOPLE. On the other hand DECREES OF THE COMMONALTY were ordinances confirmed by the votes of the commons, a plebian magistrate introducing the measure as a tribune of the commons. Concerning the manner of passing laws, we have spoken.

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* Continued from October Number Commercial Review.

Section 40. But decrees of the commonalty also began to be called LAWS. After this was secured, first, by the HORATIAN LAW in the 304th year of the city; then by the Publian Law, in the 414th year, and finally by the HORTENSIAN LAW in the 456th, that which the commonalty had commanded by tribes should bind the people.

Section 41. Moreover, from the year of the city 489, in which Prætors and Curule Ædiles began to be recognized in the city, a new accession was made to the laws by EDICTS OF MAGISTRATES, in the management of honors concerning things pertaining to the jurisdiction of each, being proposed yearly by the Prætors, the Governors of Provinces, and the Curule of Ædiles.

Section 42. To these decrees many alterations were made for the sake of aiding, of completing and of correcting the civil law, and with a show of public utility. Hence 1. *New words* invented against the fraud of the ancient laws, for example: Bonorum possessio,* Constitutum,† Hypotheca.‡ Hence 2.‖ New actions§ opposed to the principles¶ of the civil law, as the Publician and Paulian. Hence 3. Restitutions in integrum. Hence 4. Exceptions made to transactions invalid by the civil law. Hence 5. Lastly, all fictions such as you have in sec. 4, 5th inst. de act.

Section 43. And although magistrates are not legislators, yet their edicts having been approved by the customs of the forum, have at length obtained, on account of their antiquity, the authority of written law, and have been called *jus honorarium*, which is said to be the living voice of the civil law.

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* The right of suing for or of retaining a patrimony or thing which belonged to another at the time of his death.

† He was still to be constituted who obliged himself to pay what he or another owed.

‡ Mortgage.

‖ This action took its name from the Prætor Publius, and was given to one who obtained possession of a thing in good faith, and had lost the possession before he had acquired the ownership by usucapion.

§ This action was accorded to creditors to reclaim the goods which their debtors had aliened in fraud.

¶ This term signifies the rescinding of a contract or transaction, so as to place the parties in the same position that they occupied before it was made.

Art. V.—PUBLIC EDUCATION.

LOUISIANA STATE UNIVERSITY.

State Universities, wherever they have been established, have never been able to support themselves without assistance from the State, nor do we believe that our new University, about to be established, will be an exception to this rule, which all others, thus far, have followed. Assuming then, that the State University will ever be a certain expense, greater or less, to the State, it next becomes, since it must be established and supported, important to inquire what plan of establishment will secure to the greatest number the greatest amount of benefit?

Viewing all schemes based upon the supposition that the University can be made to support itself by the tuition of the students as entirely visionary, and contrary to all experience in such institutions, we would propose a plan entirely different from any now adopted in the United States, and the only one, too, which we believe can offer the greatest amount of benefit to all, without distinction. It is this: having erected the University buildings, and furnished the nucleus of a library, together with all the necessary chemical, philosophical and other apparatus, let the following Professorships be established by the State:

Mental and Moral Philosophy,
Natural Philosophy and Astronomy,
Mathematics,
Greek and Latin Languages,
Modern European Languages,
Oriental Languages,
Chemistry, Pharmacy and Mineralogy,
Geology and Natural History,
History, Ancient and Modern,
Law,
Institute of Medicine,
Materia Medica and General Therapeutics,
General, Descriptive and Surgical Anatomy,
Theory and Practice of Medicine,
Practice of Surgery,
Obstetrics.

Of these sixteen professorships, let the first nine be paid each a salary of $2,000 per annum, which would require an appropriation from the State of $18,000 per annum to sustain the University. *Let then, the* *lecture rooms of the University be thrown open to all, free of expense,* so that all, rich and poor, without distinction, can enjoy the benefits of the University to any extent.

To pay the incidental expenses of the University, let all students who attend the lectures and examinations, for degrees, pay the sum of twenty-five dollars per annum to the treasurer and librarian of the University. The twenty-five dollars per annum being the only expense to the student, large numbers would flock to the University from all quarters, and we might safely assume that at least four hundred students would pay the above fee, which would amount to $25 x 400 $10,000; more than half the amount of the whole appropriation! Even three hundred students would be seven thousand five hundred dollars, so that by this plan the actual expense to the State would, at most, be small.

Even if the University required annually an appropriation of twenty thousand dollars, this amount would be cheerfully paid by the people, since all could enjoy the advantages of the institution free of any University charges.

The Professors of Law and Medicine, although appointed by the State, by the plan which we propose, would rely for their support, as now, upon the usual fees of their respective classes, for the present, at least, without any compensation from the State. It would be quite too much to require the State to defray the expenses of the professional education of our lawyers and doctors.

We make no provision, as it will be observed, for a PRESIDENT to the University, with a high salary, as usual. We believe it a bad arrangement, as well as an expensive one. The best method undoubtedly is, to require that the professors shall choose annually from their own body, a President, who in consideration of his additional duties, be allowed the sum of, say five hundred dollars per annum.

Such is the University we propose. Should the plan be adopted, it would not only serve all the purposes that could be required as a University, but it would be more certain to sustain itself than any other institution established on any of the usual plans. Admitted to all its departments, free of expense, thousands would flock to our city from all quarters, to attend the lectures of the Professors, and a new era would be commenced in the history of American Universities. Louisiana would enjoy the honor of having first introduced into America the plan of free Universities, and the city of New Orleans would become as distinguished for its science and literature, and the liberal encouragement of learning, as it is now for its commerce and the liberality and enterprize of its citizens.

Our new Constitution declares that we shall have a University for the benefit of the citizens of this State; but if it be established on any of the plans now adopted in America, we cannot see how the institution can be made available for the benefit of the people at large, even in the vicinity of its location. In none of our American Universities are there admitted students gratuitously, and in all of them the fees are too great for any except the rich, even though they may live immediately in the vicinity. Let us suppose that the new University was established in the city of New Orleans, on the plan of any of our American universities, what proportion of our population could enjoy its benefits. Thousands of the sons of our most worthy citizens could never enter its halls, at the same time, as citizens, they would be compelled to bear their portion of the University expenses. The institution would not, on such a plan, be able to sustain itself by the fees from the few who would be able to pay them, and the inevitable result would be, that a large appropriation annually would be required from the State, and all for the benefit of the professors, and a very small body of students. Not more than one person out of ten thousand in the State would ever attend the University, as can easily be seen by comparing the number of students in other Universities with the population of the States by which they have been established.

Such then being the certain operation of a University established on the usual plan, the design of the Constitution to diffuse knowledge extensively among the people would be, to a great extent, defeated. The great majority of the people would be compelled to support an institution which they could not enjoy, and the money of the poor would be appropriated to sustain it for the benefit of the rich.

It is a principle that should never be neglected in all appropriations of the money of the people that *the benefits arising from such appropriations should be universal, or as nearly so as possible.* Neglect of this principle is manifestly unjust, since it is taking the money of one portion of the people to give to another. Fortunately, the establishment of a State University is a measure which presents no difficulty in the application of the above principle; for, as I have shown, the institution can be established and sustained on a plan by which all can enjoy the full benefit of it gratuitously. If the plan which I have proposed be adopted, thousands of young men who are now driven by their poverty from all colleges and universities in our land, and many of whom are possessed of the highest natural endowments, and who would become bright ornaments to society, had they the means of improving their minds by the acquisition of knowledge which they so eagerly desire, would throng to our city from all parts, who are now deprived of these high advantages, and for the want of them would live and die in obscurity; their natural talents, that might be made subservient to the best interests of society and their country, wasted, and their minds and morals corrupted, would be found in our University halls, fitting themselves for good and useful citizens.

And if the State University should be located, as it assuredly ought to be, in the city of New Orleans, and should be supplied with a body of able professors, it would not only be a high honor to the State of Louisiana, but from the great influx of students, would contribute immensely to the interests of the city. Able faculties of Law and Medicine would attract vast numbers, and there can be but little doubt that the number of students who would annually pay the small fee of twenty-five dollars, would be very great,—greater, in all probability, than the greatest number of students at any college or University in the United States.

Even if the amount received for fees did not equal the expense of the nine Professors, the State appropriation then would not be more than that required if the University were established on the old plan; for it is quite certain that there are at least four times as many who are able, and who would pay twenty-five dollars each, as there are of those who can afford to pay the usual University fees. So that, on the plan proposed, there would be at least as great an income from fees as on the exclusive plan, which only admits the few, with this further and great advantage, that *all, without exception, may constantly enjoy the benefits of the University.*

Such being, then, the manifest superiority of a free University, we are unable to anticipate any objections that could be urged to it. It would seem that every citizen of Louisiana would hail with enthusiasm such a University, in which, without sending his sons out of the State, he could see them educated under eminent professors, *free of charge;* the heavy expense of sending them to the North, where they are entirely removed from his control, being thus avoided. And all this too, at the expense to the State of only ten or twelve thousand dollars, at most, on the supposition that no University fees were received,—a supposition which I have already shown cannot be entertained.

This plan of a free University, as all know, is nothing new,—no new experiment to be tried, and therefore not objectionable on this ground. It has long existed in Europe, as all are aware who are at all acquainted with colleges and universities in France. The *University of Paris,* so celebrated, with its four faculties, composed of some of the most learned men in the world, is a University on the plan which I propose. All its lecture rooms are thrown open to the public, and are thronged with students from all parts of the world. The *College of France*, many of whose professors are so well known to the scientific world, is also on the same plan, and its *Lectures du Roi* delight and instruct vast multitudes by their gratuitous lectures. To the *Museum of Natural History*, in the *Jardin des Plantes*, at Paris, are attached *thirteen* learned professors, who lecture gratuitously on different departments of Natural History, Chemistry, Agriculture, etc. At the *Bibbliotheque du Roi* also, on Oriental Literature; at the Royal School of Fine Arts, on Painting, Sculptor, etc.; at the *Conservatoire des Arts des Metiers*, on various branches of practical science, are constantly delivered to the public gratuitous lectures by the most able professors. Thousands from America and all parts of the world annually visit Paris for the advantage of its free literary and scientific institutions.

We thus see that the plan of making the University of Louisiana free to all who may wish to attend its lectures, is nothing new: no wild dream, but a plan which has been long adopted, and which has now the admiration of the civilized world for years. France, with her free colleges and universities, has for many years instructed thousands gratuitously, while other nations, on the old plan, have only instructed hundreds. The plan proposed is new, it is true, in the New World, but it is none the worse for that; and we trust that our Legislature, in establishing the State University, will not hesitate on that account, and thus deprive Louisiana of the honor of originating the first free University in America. Let us have a free University, since we can have such a one quite as easily as any other; and then, while all can enjoy its advantages, there will be none who will refuse to support it.

It is quite unreasonable to expect that any of the plans that have hitherto been adopted in America for universities, will succeed in Louisiana better than elsewhere. Indeed there are a variety of reasons that might be enumerated why they would not succeed as well here as elsewhere, but the great cause of the failure of state universities, has been that they have been invariably established upon plans by which their benefits were available only to the rich, at the same time that all were taxed to support them. This arrangement, manifestly unjust, has only served to keep up loud clamours of the people against the universities, and to create every species of opposition to them, and this opposition has been persevered in, in most cases, as to materially injure the prosperity of the state universities, and in some instances to ruin them entirely.

Let us, then, discard all these old plans, and try one which, at the same time it will not be more expensive to the state, will be free to all, and thus have the cheerful support of all.

It is impossible to contemplate, too, such a university without perceiving the great advantages that would flow from it, to whatever place may be selected for its location. The vast influx of strangers from every quarter as to the schools of Paris, would contribute greatly to the wealth and commerce of the place, and benefit every class of society. Should it be established in New Orleans, the only place in Louisiana fit for such a university, the influx of strangers would be at least doubled, and our city would become renowned for its free university. We are about to have free schools established throughout the State, and all that is necessary to make our educational system complete is a *free university.* We ardently hope that the plan we have proposed above will meet with a share of the attention of our honourable legislature now in session, and that they will give the State of Louisiana the honor of establishing the first free university in America. Superior now as its commercial advantages are to those of any other city in the United States, it would then be superior to any other city in its literary and scientific advantages, and the current now running from the South to our northern universities would be turned back to New Orleans, whose delightful climate for at least as many months in the year as are usually devoted to study in universities, would render it a place superior to any other in the United States for the student. Here, in our balmy southern clime, not surpassed by that of Italy or any other country, the student would escape the rigors of a northern winter, and pursue his literary and scientific studies with improving health.

The minor details of such a university we cannot now dwell upon; and for the present we shall content ourselves with saying that they present no difficulty whatever. Let but the plan be adopted, and all else pertaining to it would be easy. The people will then have a university which they can all enjoy and cheerfully support.

Art. VI.—NOTES ON THE GEOLOGY AND MINERALOGY OF ALABAMA.

Part First.

The main design of the writer of this series of short articles is, to present a plain, brief, comprehensive view of such mineral resources of Alabama as might be made to produce decidedly beneficial effects on agriculture, manufactures, and commerce. He will, however, often describe phenomena, and thence deduce inferences interesting to scientific and literary persons only.

In accomplishing this design, the reader will be presumed to be acquainted with the elements of geology, and hence technical terms will be used, and principles of science assumed, without defining the former, or explaining the latter.

The method adopted is to begin with the most recent alluvial deposits, now forming, chiefly at the mouths of rivers, in the Gulf of Mexico, and to proceed thence across the strata, (all of which dip from north-west to south-east,) from the tertiary in the southern, and the newer secondary in the centre and western to the older secondary and primary stratified rocks in the northern and north-eastern parts of the State. In this way, it is believed, a practically useful as well as interesting outline of the geology and mineralogy of the State can be best given, describing incidentally, as occasion may seem to require, hydrology, and other facilities for manufactures, mineral waters, and artesian wells.

The total absence in Alabama of particular rocks and of important groups or formations, that occur in those parts of the earth's crust where the known series of strata is complete, will be noticed; for such notice will indicate clearly to persons acquainted with geology, that the State can never supply for the advancement of art or science, either the minerals or organic remains peculiar to such rocks and formations. Thus, neither the rocks, granite, syenite, porphyry, basalt, serpentine, nor the formations, lias, oolite, wealden, miocene, pliocene, have been found; and, if they exist in Alabama, they must be very limited in extent, or concealed from view by other rocks.

A description of Mobile Bay, including its islands, coasts, and adjacent lands, will give a correct general idea of the geological character of the alluvial and post-pliocene strata, on the whole southern boundary of the State.

Mobile Bay, more than ten miles broad and thirty long, bounded by low, sandy shores, and studded with numerous small islands, is very shallow, often only a few feet or even inches deep. It receives annually from the Alabama and Tombigby rivers and their tributaries, flowing from all parts of the interior, immense quantities of fine sand, mud. drift-wood, and other things, some of which are spread over its bottom, and envelope, near the mouth of the river, shells of the unio and other fresh water mollusca; lower down, those of gnathodon, neretina, and other tenants of brackish water; and, finally, those of the strombus, conus, murex, cyprea, and other marine genera.

Hence, this bay presents to a geologist a singularly interesting and instructive spectacle,—the simultaneous formation over a limited area of a continuous alluvial bed, containing in one part fresh-water, in another marine, and in another brackish-water remains.

In such a situation, the geologist sees in ceaselessly active operation, agencies which formed in past geological eras, many extensive rocks, now elevated into broad plains or high mountains. In such rocks he has been able to read the successive changes in the condition of the earth, —where shallow or deep seas prevailed; where estuaries, lakes, or bays existed; whence rivers ran; what animals inhabited particular regions, and what vegetables grew on the land.

When I first saw the islands in the bay, I inferred that they were of comparatively recent alluvial origin, caused by materials drifted from the river, for they are surrounded by vast accumulations of logs, and are covered to the water's edge with a dense, luxuriant growth of grass, shrubs, and small trees, the latter being wholly different in size and character, from the pines, oaks, live-oaks, bays, and poplars, seen on the adjacent coasts. Subsequent examinations convince me that they existed before the human era, and that, though the bay is gradually filling up, the process is exceedingly slow, most of the drift-wood decaying rapidly in so warm a climate, and much of the finely connected mineral matter borne into it by the river, but kept suspended by winds and tides, being carried into the Gulf of Mexico. Owing to these causes, the bay probably does not shoal on an average more than an inch in a century. The geological evidence on which these inferences rest, will be given in the sequel.

On each little island is a solitary hut, occupied, I believe, by French or Spanish creoles, who cultivate a fertile garden and eke out a miserable existence by selling in the city vegetables, fish, oysters, crabs, turtles, and shells for paving streets.

In these fishermen's gardens, I had an opportunity to obtain conclusive evidence that the islands were raised above the level of the waters simultaneously with the lands around Mobile, and on the adjacent coast.

The surface of each island is a thick bed of soft, dark marl, composed chiefly of myriads of shells of a species of gnathodæ which has long been extinct in the Gulf of Mexico, but which still lives farther east on the Atlantic coast. This fact proves the marl to be a post-pliocene rock, similar in age to those on the southern coast of Georgia, in which the bones of the megathenon described by Mitchell, Cowper, Lyell, and Hodgson, were found.

A different species of living gnathodæ is exceedingly abundant in the waters around the island, but not one of its shells can be found in the bed of marl. Had these islands been formed by alluvial deposits of sediment from the river, and the shells on their surfaces been thrown there by the Indians, as some have supposed, those in the marl would correspond in specific characters with those in the waters of the bay.

It is certain that this gnathodon bed of post-pliocene marl, underlies the alluvial deposit in the bay in all places except those from which it has been washed by the current of the river. On Greenhard's island, four miles from Mobile, and therefore near the center of the bay, I examined a narrow canal several hundred yards long, which had been dug by the fishermen from the edge of the marsh to their huts near the the centre of the island. In the bottom of this canal, from one end to the other, may be distinctly seen the same bed of marl, which rises in the island six or eight feet above the level of the water. It is readily distinguished by its shells from the alluvial deposit above it. The latter is very thin, indicating distinctly an extremely slow process of deposition.

The same gnathodæ bed of marl is found in the bluffs around the bay, and in the beds of streams, and other valleys of denudation in the country around Mobile. Generally, in all this region beds of clay and fine sand repose on it. Its limits have not been accurately ascertained, but enough is known to prove that it is very extensive. Its boundaries, when ascertained, will define the extent of the prevalence, prior to the last elevation of the southern coast of the State, of brackish water similar to that in the bay.

The strata of clay and sand are known by their position on it, to be more recent than the marl. They form some of the sand hills in the immediate vicinity of Mobile. The materials of these strata were probably drifted south from an ancient coast of the Gulf, then much more extensive than at present, by the agitation of the waters caused by the force that elvated the whole region to its present position. The retiring waters cut valleys through the sand and clay in some places, and removed them completely in others. Hence, these strata are not found on the marl in the islands. The materials that formed them on the land, were transported from the islands into the Gulf of Mexico by the current of the river, by waves, and by tides.

This extensive bed of rich marl has supplied shells for improving the streets and yards in the city of Mobile. This, it is believed, is the only use to which it has yet been applied; but as it is covered generally, by thin beds of clay and sand only, and is found on the surface and in streams, in many places, it might be extensively employed in fertilizing the sand-hills that repose on it. Agriculturists and horticulturists should certainly test, by direct experiments, the effects of spreading from one to three hundred bushels of it on an acre of sandy, poor land. For this purpose it need not consist almost wholly of shells, as must be the case when it is spread on streets, walks or yards. On the contrary, when used as a manure, it would be most efficacious when obtained from parts of the bed containing much fine earth mixed with small fragments of decomposed shells.

The preceding description of strata applies to what the writer saw in the islets in Mobile Bay, in the city, and in the hills and valleys in the immediate vicinity. He believes similar strata exist along much of the southern border of the state. In this belief he may be mistaken. Nor would he be understood as regarding all the sand-hills near Mobile and on the Bay, as post-pleocene strata, more recent than the Gnathodon marl. He had no opportunity of finding or tracing the out-crops of the marl. He saw it, however, several miles north and west of the city. Still it may not extend far into the interior; and subsequent to the final elevation of the whole region, various agencies may have mingled on the surface near their line of junction, sand from the out-crops of beds below the marl with that from those above it. This, however, is a question of scientific interest only. The great extent of the marl in proximity to large bodies of poor sandy lands, is certain; and hence its value as a deposit of accessible mineral manure cannot be doubted. Every acre of the pine barrens, within ten miles of the city, certainly can, by marling, be made durably rich, for a much less sum than the current price of an acre of similar pine land in Rhode Island or Massachusetts where marl for manuring is not found. A few years will prove the correctness of this opinion. Alabama, even now, is so sparsely populated, that an acre of rich land can be purchased for less than marling it would cost; and hence, thick beds of rich marl are regarded as valueless: but the rapid exhaustion of her fertile soils, and the increasing demands of a growing population will, ere long, augment the price of even barren soils. Marl will then be valued and applied, and spots now sterile will be rendered fertile.

Dr. J. C. Nott of Mobile has supplied me with some facts, from which the mineral character of the strata under the city, to the depth of about two hundred feet, may be inferred. These facts were obtained from Mr. Troost and others, who had attempted to procure water by boring Artesian wells.

Mr. Troost's experiment was made near Church street, about fifteen feet above the level of the river. His augur passed through the following beds: 1st. Blue marl containing logs and other vegetable matter, twelve and a half feet; 2nd. Fine sand eight feet; 3rd. Coarse white sand with pebbles, ten feet; 4th. Several very thin beds of clay and sand, three feet; 5th. Fine yellow sand, with small concretions of clay, ten feet; 6th. Quicksand 47 feet.

The blue marl, twelve and a half feet thick, is obviously the Guathodon marl, which in different parts of Mobile, rises to the surface. In all such places it contains shells of Guathodon, but the species was different from that, (Guathodon Cuneatus) which now exists in the river and bay.

At the depth of thirty feet in the stratum of sand and pebbles, which lies above the thin alternating layers of clay and sand, Mr. Troost observed that pure water rose three feet in the pipe. This fact is important, for it indicates a difference in the mode of deposition as well as in the edge of the thin subjacent beds of clay and sand.

Mr. Troost found the quicksand very difficult to perforate. The water rose in the pipe thirty feet in one night. Hence, when his augur was lost, at the depth of ninety feet from the surface, the undertaking was abandoned. Other persons had sunk their augurs one hundred and eighty feet; and one individual obtained good water which is still used.

Mr. Hale, who has spent much time in collecting fossils from the Eocene and Cretaceous strata in South Alabama, estimates at two hundred feet, the thickness of the marl, clays, and sands that have been described. If, as I shall presently attempt to prove, they are the same as the *ferruginous sand formation*, they are probably much more than two hundred feet thick, in many places.

The Guathodon marl, and the thin strata of clay and sand that lie above it, may be referred with certainty to the post-pliocene formation now known to occur in many places in the United States. The age and geological relations of the subjacent beds of sand have not been ascertained. They may prove to be the equivalents of either the pliocene or the miocene strata; but they are believed to be the most recent eocene deposits. They consist almost wholly, as has been stated, of sands and friable sandstones, which dip a little east of south, at an angle of inclination not exceeding 15°. And they form where they crop out at the surface, a plain of nearly level sandy lands, over a wide area along the coast, covered, except where savannahs, marshes, and ponds occur, with forests of pine and a rank growth of coarse grass. They present, therefore, very few favorable situations for determining their age by their position; and the difficulty is enhanced by an almost total absence of organic remains. Still, a few facts have been recorded, which I will now proceed to notice.

In the American Journal of Science, second series, November 1846, Mr. Artemas Bigelow described a bed of friable, ferruginous sand rock, extending from Pensacola along the eastern coast of the Gulf and Mobile Bay, to Washington county, Alabama. Mr. Buckley had previously mentioned it as a rock that occurs in Clarke county, near the locality whence he obtained the remains of the Zeuglodon. In this sand rock, especially in Washington county, east of the Tensau river, very remarkable "sand-stone tubes" are abundant, from one to twelve inches in diameter, and six, eight, or ten feet long. Each tube is filled with ochre or sand; and sometimes contains portions of silicified wood. From their number, size, horizontal position, and fragments of silicified wood, Mr. Bigelow infers that they were formed by cementation of sand around trunks and branches of trees, drifted south by a river and deposited at its mouth.

I have several of these tubes from Washington county in my possession, which were given to me by Dr. Hamilton of Mobile. They correspond in all respects with those described by Mr. Bigelow; and, before I saw his article, I inferred that they were formed in beds of clay and sand around roots which subsequently decayed, the resulting tubes being filled by sand and the oxide of iron. As he saw them in many places in the rock, all parallell to the lines of stratification, his conjecture is probably correct.

In one place, he saw in the sand rock, "abundant but very obscure impressions of several genera of shells, apparently all bivalves." As he has not given even the generic names of the shells, their impressions, like the tubes, throw no direct light on the age of the rock.

He has shown, however, that it underlies the marl in the bay, and probably forms the beds of sand under Mobile; for, after stating that, where he saw it, it is more than one hundred miles long and fifty wide in its broadest part; that at the distance of a few miles it often attains an elevation of two hundred feet above the river, and that it is generally covered by beds of clay, except where it has been cut through by valleys of denudation, he states that, at the distance of two miles inland, it begins to slope down into Tensaw river, the eastern side of Mobile Bay. Thence, doubtless, it passes under the marl seen in the islands, in Mobile, and in the immediate vicinity. And if, as may be inferred from the "sand-stone tubes" found in both, it extends up the river to Clarke county, where Mr. Buckley saw it, it is unquestionably the *ferruginous sand and clay formations* described by Mr. Lyell, as occurring in South Carolina in Georgia, and in south Alabama, in which latter he saw it, near Claiborne, Suggsville, and St. Stephens, lying on the *nummulite limestone*, now known to be one of the most recent eocene strata though, on the authority of Conrad and Morton, it had been represented as a secondary rock.

When I saw him, in February, 1846, Mr. Lyell, an experienced, cautious geologist, had not been able, owing to its want of organic remains, to fix the age of the ferruginous sand-rock; yet he was inclined to regard it as the most recent eocene stratum. My own observations made soon afterwards, induced me to adopt his opinion, for, besides what I had seen in South Carolina and Georgia, I found, last April, on the eocene, nummulite limestone at St. Stephens, numerous *indications* of an extensive bed of ferruginous sand-stone, similar in all respects to those which are commonly found in the *feruginous sand and clay formation* in South Carolina, Georgia, and Florida. What is more applicable to my present purpose is, that the sand-rock at St. Stephens is identical in lithological characters with the "sandstone tubes" found by Buckley and Bigelow, from Suggsville to Pensacola.

If these views are correct, the *ferruginous sand and clay formation*, (the most recent eocene deposit,) lies, geologically, below the alluvial and post-pliocene strata around the Gulf ofMexico, and below the nummulite, tutiary limestone at St. Stephens and other placesin South Alabama. It forms, therefore, on the southern boundary of the State, a broad belt of low sand-hills, such as are seen between Mobile and Claiborne or St. Stephens.

The whole region is destitute of valuable minerals. Neither precious gems nor metallic ores can be sought in it with any prospect of success.

Some of your readers may think this article would suit better a scientific journal. Nothing could be further from the truth. Science is the basis of arts, manufactures, and commerce; and a scientfiic principle clearly explained and generally understood, may cause the wise investment instead of the foolish expenditure, of millions of capital. Thus, the whole region described in this article, is destitute of valuable minerals, and therefore all expensive searches for gold, silver, iron, or coal, should be avoided. It possesses rich beds of marl, which agriculturalists might advantageously use, and it is covered with immense pine forests which could be occupied profitably by persons engaged in the collection and manufactory of turpentine, tar, resin, and lampblack.

Hence, whether its numerous harbors, its navigable streams, its rich marl, its boundless pine forests, it salubrious atmosphere, or its pure waters be regarded, it possesses superior commercial advantages.

Art. VIII.—THE LOUISIANA OUACHITA REGION.

No. II.

The first inhabitants of Ouachita Europeans, or of European descent, were, as before stated, exclusively hunters; they were without ambition as to the acquisition of wealth. A few, more industrious than their neighbors, added to the products of the chase some means of satisfying their very limited desire of obtaining more than the absolute necessaries of life. The greatest number did not, however, show much inclination to employ their long intervals of leisure in agricultural labors; they spent carelessly the product of their hunting excursions, which sometimes reached to a proportionally considerable amount. One of their favored pastimes was to tie to their hats their hunting-shirts; to the mane and tail of their horses a large quantity of ribbons of all colors, often to the value of one hundred dollars, when what now sells for five cents, was paid for by them at one dollar a yard. The horses and riders thus decorated started together through the prairie at full speed, the ribbons fluttering fantastically in the breeze. This was considered a beautiful show. All were good, honest people, kind and liberal; their hospitality boundless. Of a gay and lively disposition, they were fond of amusements, of these the dance held the first rank; they had balls always once a week, and often twice. The refreshments were coffee, taffia, (New Orleans rum,) and fritters of Indian corn meal, to which was added when the company was numerous, the more substantial beef, or some member of the grunting tribe. The dress of the ladies on these occasions, was as simple as their customs, linen check was the *ne plus ultra* of the fashionable circle, and the first one who appeared in calico was considered as very extravagant, and surely would be ruined by such unheard of luxury.

All this, however, did not last long; when the new families introduced in 1795–7, were settled and gave the example of industry, showing that labor found its reward with far greater certainty when bestowed on the culture of the soil, than by the continually diminishing products of the chase. The plough was then seen in hands previously employed in the sole use of the gun and rifle,—the country gradually but rapidly assumed another aspect; the fertile land of the prairies were covered with valuable crops, and even the forest soon fell under the axe of the sturdy woodman, commerce increased in proportion, and the farmer can purchase at moderate prices what was before sold to him at enormous rates by merchants who met with little or no opposition. The value of goods annually sold in the small town of Monroe, alone, does not amount to less than two hundred thousand dollars, besides the several stores scattered in the neighborhood.*

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Art. IX.—THE CITY OF ST. LOUIS.

The anniversary of the founding of this already great city was celebrated with much eclat on the 15th of February last. The festival was in every sense worthy of the occasion. Would it not be well if the citizens of New Orleans would imitate this example, and recur annually to the same important event in the history of our city, and indeed in the history of the Union.

Wilson Primm, Esq., delivered the address, from which we would extract a few passages of wide spread interest.

1.—Founding ot the city.

"On the 15th February, 1764, Laclede and his party landed at the spot now occupied by our city, and proceeded to cut down trees and draw the lines of a town, which he named St. Louis, in honor of Louis XV., of France, a town which subsequently became the capital of Upper Louisiana, and which is now the commercial capitol of Missouri. I could not, in justice to my audience, and on such an occasion, speak of the physical aspect of the country, more than to say, that St. Louis was then a wilderness, tenanted by the prowlers of the forest, and surrounded by untutored and savage bands of Indians, and that for long afterwards the beasts of the forest afforded nourishment, and rude huts on the ground, and scaffoldings in the trees afforded shelter and protection to the generous and daring people who first exposed the bosom of our soil to the genial influences of social industry."

2.—History and Progress.

"From the time of its establishment, up to the year 1768, St. Louis had grown apace. The population had become settled; they had erected dwellings of a com-

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Note.—Among the first inhabitants a few were so indolent, and not always lucky in finding in the forest as soon as wanted, food for their families, that the mothers in order to assuage the cravings of hunger endured by their offspring, used to put a tight belt around the body of their children. Now, as the industrious wife of the agriculturalist is fully occupied, and cannot be constantly watching over her infant, when compelled to be absent, she gives him a piece of fat pork to suck, and as he might choke himself she ties a string of proper length to the piece, one end of which is tied to his foot. If he tries to swallow it, and thus run that risk, his first motion is to kick, and off goes the pork from its dangerous position. This is sufficient to show the difference of industry and ingenuity between the first settlers, who mainly depended on the chase to provide for their family, and the subsequent ones, who, to use a farmer's expression, "raise their own meat."
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fortable character, and had improved and cultivated the neighboring lands. Every thing, in short, connected with their position and prospects, warranted the anticipation of a peaceful and happy existence, under a mild and patriarchical form of provincial government.

"In the mean time, however, the fact of the cession of Louisiana, (not the terms of the cession,) had been made known at New Orleans. In 1766, whilst great dissatisfaction then prevailed, the Captain General, Don Antonio D'Ulloa, with Spanish troops, arrived there, and demanded possession in the name of Spain. This was refused, and the people of New Orleans, indignant at a proceeding which had transferred them from hand to hand, like merchandize, droveback D'Ulloa from their shores.

"In this state of *quasi* revolt, the population of Lower Louisiana remained, clinging to their loved government of France, until the arrival of Count O'Reilly, in 1769. The inhabitants of Upper Louisiana, fewer in numbers, and incapable of such resistance as had been manifested by their southern brethren, were compelled to submit to Spanish authority. Accordingly, we find that on the 11th August, 1768, Mr. Rious, a Spanish officer, with Spanish troops, perhaps the very same that had been driven from New Orleans, arrived at St. Louis, and took possession of Upper Louisiana in the name of his Catholic Majesty.

"In February, 1779, Col. George Rogers Clark, under the authority of Virginia, after having struck many severe blows against the British power on this side of the Ohio river, was in the neighborhood of St. Louis, raising men from amongst the French inhabitants of Cahokia and Kaskasia, for the purpose of re-capturing St. Vincent's, now called Vincennes, and which was then in possession of the English under General Hamilton.

"Understanding from the same source, that an attack was meditated upon St. Louis, by a large force under British influence, that too at a time when Spain was contending with England for the possession of the Floridas, Clark, with that chivalrous spirit, which has earned for him one of the brightest pages in American history, at once offered to the Lieutenant-Governor, Leyba, all the assistance in his power to repel the contemplated attack. The offer of assistance was rejected on the ground that no danger was really apprehended.

"In my former sketch of the history of St. Louis, I had placed the time of this offer by Clark in 1780. Satisfied that it was made anterior to that year, and whilst he was raising troops for the recapture of Vincennes, I am not, however, permitted to withdraw the statement that such an offer was made. The testimony of witnesses then living, upon whose authority it was then made, leaves in my mind no room to doubt the correctness of the *fact*. In this too, I am borne out by the authority of Stoddard, in his historical sketches of Louisiana.

The territory on which St. Louis stood, and that on which several other towns had been located, and the surrounding country, were claimed by the Illinois Indians, but they had acquiesced in the intrusion of the whites, and had never molested them. But when the rumor of an attack upon the town began to spread abroad, the people became alarmed for their safety."

3.—Transfer of St. Louis to the United States.

"Upon the transfer of the country from Spain to the United States, the introduction of American authority necessarily increased immigration of the Anglo-Americans, and the population slowly, but steadily augmented in numbers. On the 26th day of March, 1804, the country was constituted a District of the United States, under the name of the District of Louisiana, and on the 19th day of October of the same year, William Henry Harrison, then Governor of the territory of Indiana and of the District of Louisiana, instituted the American authorities here. On the 4th of July, 1805, this country was erected into a territory of the United States, by the name of the Territory of Louisiana, and on the 4th of June, 1812, it received the name of the Territory of Missouri. §

"We have now to arrive at a period when a new era was to dawn, not only on St. Louis, but upon all her northern and western dependencies, when a power, greater than that of the fabled lamp of Alladin, was to be brought into requisition, and by its magic, to mature, as it were in a day, in the western wilds of America, an existence which, on the shores of the eastern continents, the lapse of centuries had not been able to produce.

"In 1817, the 'General Pike,' the first steamboat that ever ascended the Mississippi, made its appearance at St. Louis. Those who lived here at that time, can well remember the fear and consternation of the people who saw the craft, breasting the sturdy current of the river, without the help of sail or oar, and they can also bear in recollection the execrations and forebodings of the nervous and hardy voyagers, who felt and knew that the days of the *warp* and *cordelle*, and of the *red feather in the cap*, were to pass away. The stoutest man of a keel boat, usually placed in his hat or cap, on landing, a scarlet feather, which was the *gage* of battle to any one on shore who would dispute his title to superior manhood."

4.—Admission into the Union.

"Passing over the fierce discussions which eventuated in the establishment of Missouri as one of the confederacy, 1820, we come to the year 1822, when St. Louis, by legislative enactment, was erected into a city by the name which she now bears. Since that time, what wonderful changes have taken place? Working her way to importance and greatness through all the impediments which have been opposed by the neglect of the general government, and the tardy and grudging action of the State, of which she ought to be the pride, and is the chief support, St. Louis has still maintained her onward and upward flight, like unto the noble bird, which by its own power and strength, unsustained and unsupported, floats majestically over the storm clouds of the sky.

"The advantages of education, the lights of science, the blessings of religion, placed within the reach of all; the establishment of a wise and vigorous municipal government, under the auspices of which her limits have been enlarged and her interior improved and embellished; the erection of manufactories, the extension of the arts, the regulation of commerce. All these results, so well known and appreciated by those who hear me, have flown from the natural resources of St. Louis, and the intelligence and enterprise of her citizens. She has now a name and reputation abroad of which we may all be proud. Let it be our care always to maintain them, so that hereafter, when away from our homes, the title of citizens of St. Louis may be more potent even than that which, in ancient times afforded protection to the citizens of Rome."

5.—Steam navigation to St. Louis and on the Missouri.

"Up to this time communication with New Orleans was rare and difficult, and although Spain claimed the exclusive navigation of the Mississippi, yet she was not able to protect her subjects from the rapacity of the amphibious pirates who infested that river. The early efforts of the citizens of Virginia, from 1769, and the hardships and dangers which they encountered in attempting its navigation, bear me out in saying that a trip from St. Louis to New Orleans, was more arduous than a trip would now be to China. Now we have steamboats which waft us with a velocity that seems almost to annihilate distance. Even the short interval of five days from New Orleans to St. Louis, is not considered as any thing extraordinary in the speed of the mighty crafts which stem the bold current of the Mississippi. Then the oar of the hardy voyager alone moved the dull bark against the rapid current, except, occasionally, when the southern breeze would spring up, and filling the sail, permit him to rest from his toil, Besides these natural difficulties, communications with New Orleans was at this time rendered dangerous, from the circumstance that a numerous band of robbers, under the guidance of two men, named Culbert and Maglibray, had located themselves at a place called Cottonwood Creek, 'La riviere aux Liards,' and began a system of depredation which was highly alarming and detrimental to those who navigated the Mississippi. As communication between the two ports could be effected but once a year, the boats were generally richly laden, so that the plunder of them was wealth to the plunderers and ruin to the owners. The gay song of the voyager, as he kept time with the stroke of his oar, was the signal for the robbers to rush from their retreat. Armed at all points, they seized upon the vessels, and compelled the astonished and terrified crews to run them to shore. There they would divest them of all that was valuable and leave them at liberty either to continue their route, or return to their place of departure. This system of pillage was carried on with success; it was rare that a boat passed these robbers unseen, and seldom did they see one which they did not pillage."

6.—First Steamboat on the Missouri river.

"*Franklin*, (Boonslick, May 19, 1819.

"Arrival of the Steamboat.—With no ordinary sensation of pride and pleasure, we announce the arrival this morning, at this place, of the elegant steamboat Independence, Capt. Nelson, in seven *sailing days* (but thirteen from the time of her departure) from St. Louis, with passengers and cargo of flour, whiskey, sugar, iron castings, &c., being the *first steamboat that ever attempted ascending the Missouri.* She was joyfully met by the inhabitants of Franklin, and saluted by the firing of cannon, which was returned by the Independence.

"The grand *desideratum*, the important *fact* is now ascertained, that steamboats can safely navigate the Missouri."

* * *

Art. X.—MOBILE AND OHIO RAILROAD.

THE CITY OF MOBILE.

The project of connecting the city of Mobile with the Mississippi river, at the junction of the Ohio river, by a railroad, and from this point of extending the railroad to the city of St. Louis, proposed by M. J. D. Baldwyn, Esq., has commanded the serious consideration of the citizens of Mobile. A large and highly respctable meeting was held at Mobile on the 11th ult., at which great enthusiasm was displayed, and a committee of fifty-six, consisting of the most influential gentlemen of Mobile and of the States of Alabama and Mississippi, were appointed to adopt means for obtaining all necessary information, and for accomplishing a preliminary survey and estimate of the route. This committee have gone to work with a proper spirit, and their activity and intelligence give every assurance that no efforts on their part will be spared to bring the subject fairly and properly before the public.

The fame of this undertaking has extended beyond Mobile; the curiosity of the enterprising citizens of the South and West has been aroused, and many inquiries have been made with regard to the objects intended to be accomplished by this great enterprise. In order to satisfy these inquiries, through your journal, you have honored me with the request that I would furnish you with a description of the proposed route of the road. Notwithstanding the limited means of information at my command, I will endeavor to comply therewith.

Commencing at the city of Mobile, the route projected is in nearly a North direction, diverging slightly to the West, on the comparatively level lands dividing the waters of the Mississippi from those of the Tombigby and Tennessee rivers, through the southwestern portion of Alabama, the eastern and north-eastern parts of Mississippi, the western district of Tennessee, and the southwest corner of Kentucky to the Mississippi river, at or near the junction of the Ohio. At this point, it is suggested to cross the Mississippi river by a steam ferry, similar to that over the Susquehanna on the line of railroads between Philadelphia and Baltimore, and to extend the road on the west bank of the Mississippi, to the city of St. Louis.

The distance from Mobile to the junction of the Mississippi and Ohio rivers on this line, would be about four hundred and forty miles, and from the mouth of the Ohio to the city of St. Louis, about one hundred and fifty miles, making the total distance from the city of St. Louis to the city of Mobile, equal to about five hundred and ninety miles.

A glance at the map of the States through which this route is projected, will indicate that from Mobile to the mouth of the Ohio, there is not a river or stream of any magnitude to cross, and that on the west bank of the Mississippi river up to the city of St. Louis, there is only one river, the Maramec, to overcome.

In the present communication, it is proposed to say nothing of that part of the route between the city of St. Louis and the mouth of the Ohio. There can be no doubt that as soon as a continuous line of railway exists from the waters of the Gulf of Mexico to the Mississippi, at the junction of the Ohio, the citizens of St. Louis, anxious to partake of the advantages of railroad communication, will be ready to meet it with a railroad from their city to the west bank of the Mississippi.

St. Louis is the great depot of the vast productions of the Upper Mississippi and Missouri. She receives and distributes supplies for an immense extent of territory, exceedingly fertile in the production of articles which must be transported to markets other than those afforded at home. Her navigation to these markets is at all times dangerous, interrupted frequently by the shifting of channels, and the accumulation of snags, and for weeks in the winter season, entirely closed by ice. Her interests will, at no distant period, even if they do not now, point out the necessity of having constant intercourse with the south, uninterrupted by low water, by ice, or by the numerous dangers of river navigation.

For eighty or one hundred miles, the country north of Mobile, through which the railroad will pass, is described to be a comparatively level sandy region, very favorable for railroad making, and covered with yellow pine, of matchless height and straightness, affording timber of excellent quality in sufficient quantities to construct the road in its progress through it.

Thence through Mississippi, Tennessee and Kentucky, where the line will run, the natural surface of the soil is said to offer no obstacles to obtain a straight route of easy grades, without heavy excavations or embankments. The character of the grading will be of the easiest description, there being no rock to encounter except at the northern termination of the route, near the Tennessee and Ohio rivers. Through the eastern part of Mississippi the route will pass over prairies from five to ten miles wide, and from twenty to thirty miles long. From surveys made for railroads through the western district of Tennessee, the natural level of the country is represented to offer so many desirable routes in this respect, that the chief difficulty will, perhaps, be in selecting the most favorable. Parallel to the Mississippi and Tennessee rivers are two ridges of highlands, on either of which the road might be located to advantage.

As we emerge from the pine lands of the south, the locust, water oak, sassafras, cypress, and in some places the cedar, grow in great abundance, and will furnish timber of excellent quality, and in sufficient quantities for superstructure.

On the southern portion of the route, judging from the cost of railroads over similar sections of country, the average cost of road formation will not exceed twenty-five hundred dollars per mile. In the middle and northern portions of the route, where the country is more broken, the soil more difficult of working, and where frost has to be guarded against, the average probable cost of road formation will not exced four thousand dollars per mile.

The nature of the business which this railroad will transact, requires that the superstructure should be substantial and well arranged. Experience on other roads having much trade and travel, has shown that it is false economy to adopt a light rail and superstructure. The cost of a good superstructure for a single track, with the ⌶ rails weighing 50 lbs. to the yard, may be estimated at $10,000 per mile.

At the foregoing rates, the following will be the cost of the railroad:

Preparation of road bed, 100 miles, cost 2500, -	$250,000
do. do. 340 " " 4,000, -	1,360,000
Superstructure, 440 miles, cost $10,000, - -	4,440,000

To this amount may be added $1,000,000 for right of way, turn-outs, water stations, depots, locomotives, cars, and contingencies, making a grand total of $7,050,000 to place the road from the city of Mobile to the Mississippi river at the junction of the Ohio, in a working condition.

This, in the absence of results from actual inspection and instrumental examination, may be considered a fair estimate. It is believed by many that this estimate is too large, but in ascertaining the advantages to be derived from an enterprize, it is always more safe to give the benefit of doubts to that side which allows the highest estimate for the execution of the work.

The city of Mobile, selected as the terminus of this great enterprize, besides being the nearest point on the waters of the Gulf of Mexico to the junction of the Mississippi and Ohio rivers, possesses advantages over all other cities near the Gulf to satisfy the requirements of such a position. Situated on the Bay of Mobile, at the mouth of one of the three rivers which discharge their waters into the Bay, and which drain an area of over 40,000 square miles of land, a great part ot which consists of the most fertile cotton growing lands, it presents unrivalled facilities for a great and growing city. Its site open to the cooling and refreshing breezes from the Bay, is on a sandy slope, gradually rising from the river's edge to 15 or 20 feet above common stage of water, which usually does not vary more than one and a half feet. Immediately in the rear of thc city, is a plain exteding five miles back to a ridge of sand-hills known as Spring Hill. The sub-soil of this plain is clay, and affords an excellent foundation for rich and productive gardens, yielding with little attention vegetables in great abundance at all seasons. Its game and fish market surpasses that of any southern city, and the common necessaries of life are cheap and abundant. The health of Mobile will favorably compare with any southern sea-port, while during an epidemic, strangers who are only liable to it, can avoid its influence by an hour's drive into the country on the sand-hills, where they are as free from contagion and in as healthy and pleasant climate as at the north. In this respect, Mobile has advantages possessed by no other southern sea-port. An abundant supply of pure and wholesome water has likewise been introduced, which has materially added to the health and comfort of the citizens. The streets have generally a fall towards the river, and can be easily kept clean and pure.

The harbor of the bay of Mobile below the city is well sheltered and capacious, with sufficient depth of water for the largest class of cotton vessels, drawing nineteen or twenty feet, to enter with safety. Vessels drawing from eleven to twelve feet can come to the wharves of the city. The obstructions which prevent the approach of larger vessels are caused by the deposits of rivers emptying into the Bay, and might be removed by a judicious system of improvements.

Mobile is better situated for the Texas, Mexican, and West India trade than any other southern seaport. The usual class of vessels trading with the West Indies and the ports on the Gulf, can always be at the wharves of the city, and are not subject to the delays and expenses attending the towage up the swift current of the Mississippi. The sugar planters on the rivers and bays discharging into the Gulf, from the Balize to the Sabine river, prefer to send their produce to Mobile rather than to New Orleans for the same reason.

Even if the obstructions to the approach for vessels to Mobile were removed, the captains of the large cotton ships assert that they would rather remain at anchor at the lower harbor, and receive their cargoes by lighters as at present. Their vessels are anchored in a well protected and capacious harbor, in a more safe and secure position than at the wharves of the city, they have no dock charges to pay, and they can keep their crews in perfect subordination and health, and removed from the temptation of the city, at all times ready to perform their duties. In other respects their expenses are light, and enable them to wait for advantageous freights.

As matters now stand, it can be shown that a vessel can be loaded and sent to the Gulf of Mexico from Mobile at a less expense than from New Orleans, with the further advantage that from two to three feet more water can be brought into the harbor of the bay of Mobile than over the bars at the mouths of the Mississippi.

Mobile is now the second cotton exporting city in the Union. The amount in this article alone ranges from fourteen to sixteen millions per annum, while her importations of merchandize from foreign ports amounted in 1844 to nearly $400,000.

We repeat, therefore, that as the terminus for a great railroad, destined to supply with groceries and with foreign goods, a vast extent of country between the Mississippi and Tombigby rivers, and eventually to supply the fertile regions to the west of the Mississippi river, of which St. Louis is the central depot, and to receive and to ship to foreign markets their immense and varied productions, no position can be selected equal to that of Mobile.

Let us now examine the character of the country through which the railroad will pass in order to form an idea of the *local trade* which will be transacted upon it.

As we proceed north from Mobile the country for about eighty or one hundred miles is of a sandy nature, intermixed with clay, and covered with the long leafed yellow-pine, a considerable quantity of which is now exported to France for naval purposes. This section of country better adapted for grazing than for any other agricultural purpose, is at present principally inhabited by small farmers who follow this occupation. It only requires an opening to a market to render it valuable for supplying lumber, fire wood, bricks, tar, pitch and turpentine.

Once out of this pine region, the railroad will enter and will pass through for its whole course up to the mouth of the Ohio, without exception, the most fertile cotton, corn and grain region in the United States. A section of country, the greater part of which is cut off from water communication for three-fourths of the year, and which is in want only of a direct and regular communication with a market to make it the garden spot of America.

When completed the Mobile and Ohio railroad will command the trade of eight counties in Alabama, twenty counties in Mississippi, thirteen counties in Tennessee, and four counties in Kentucky. These counties had in 1840 a population of 410,927, distributed as follows:

In the counties in Alabama, ...	148,383
In the counties in Mississippi, . . .	101,553
In the counties in Tennessee, . . .	128,430
In the counties in Kentucky, . . .	32,561
Total, ...	410,927

Assuming that the population doubles every twenty years equal to an increase of 30 per cent. for six years, and there is every reason to believe that the ratio of increase has been greater, the present population would be 534,205.

The following table exhibits the quantity of live stock, the annual agricultural productions and the value of home made goods of the different portions of the States above mentioned, obtained from the census of the year 1840:

	No. of horses & mules.	No. of neat cattle.	No. of sheep.	No. of swine.	Value of poultry	Bushels of Wheat.	Bushels of Oats.
Alabama,	27,646	111,703	26,441	185,124	119,375	96,643	132,913
Mississippi,	32,087	197,198	29,473	287,516	95,590	114,308	171,683
Tennessee,	54,211	171,726	107,967	523,248	110,946	1,184,959	901,643
Kentucky,	15,447	33,478	39,359	120,837	24,249	208,169	381,023
	129,391	514,105	203,240	1,116,725	350,160	1,604,079	1,587,262

	Pounds of cotton.	Bushels of corn.	Bushels of rye.	Pounds of wool.	Bushels potatoes.	Pounds of tobacco.	Home made fm'ly goods.
Alabama,	24,466,254	2,781,457	9,113	35,023	213,311	14,894	$248,386
Mississippi,	22,605,110	3,624,263	2,081	39,083	262,539	40,385	211,582
Tennessee,	7,343,561	5,065,443	28,912	157,865	265,828	11,790,877	466,177
Kentucky,	274,427	1,385,016	9,446	54,734	45,894	2,020,552	136,873
	54,689,352	12,856,179	49,552	286,705	787,572	13,866,708	$1,063,018

Agricultural products increase in much greater ratio than the population. If to the above amounts an increase of 40 per cent for the last six years was added, it is thought that the true quantities for the present day would not be over estimated.

Such is the character of the country, the population and the annual products which are to supply this great enterprise with its *local trade.* Will this local trade be sufficient to support the road? Experience best answers this question. The Erie canal, in 1824, running through a population of 394,631, gave $600,000 toll. This road will pass through a population of over 500,000, and will derive a revenue from passengers as well as freight.

Nor will this railroad be dependant upon the local trade commanded by the main line alone. A great line of railroad like the Mobile and Ohio Railroad, extending in a continuous line without crossing navigable rivers and avoiding thereby the necessity of *shifting freight*, from the most inland point on the waters of the Gulf of Mexico to the junction of the Mississippi and Ohio rivers, will have its lateral branches.

Let us examine for a moment where these lateral branches would intersect the main line, and also the character of the country, the resources of which these branches would develope.

At the distance of about 120 miles north of Mobile, the main line will meet with the extension of the Vicksburg, Jackson, and Brandon railroad; charters have been obtained to extend this road through Mississippi and Alabama to Montgomery. It would not be difficult to prove that most of the trade of this railroad west, and for many miles east of the main line, will seek Mobile as being the nearest sea-port town and as offering the greatest shipping facilities. Thence forty-two miles northwardly at a distance of one hundred and sixty-two miles from Mobile, the route will be on a line nearly due west from the Lipsey river at its junction with the Little Tombigby. By running a lateral branch up the valley of the Lipsey, a distance of from forty to fifty miles, a connection can be formed with Tuscaloosa. The advantages of Tuscaloosa and its vicinity in a manufacturing point of view, are already beginning to attract the attention of manufacturers and capitalists. The inexhaustible beds of bituminous coal and of rich iron ore in close proximity to one another, and the water power afforded by the rivers and streams in the neighborhood of Tuscaloosa, with a safe and uninterrupted communication with a market, will enable her to foster and encourage the different industrial pursuits dependent on these invaluable materials, and to become in a few years, as her position justly entitles her to, the Birmingham of the South. Her inland position and her want of communication for the greater part of the year, will hinder, if not entirely prevent the introduction of manufactures on a large scale. Where would Tuscaloosa seek for an outlet to her productions, evidently at the nearest sea-port, Mobile. Tuscaloosa has a great interest in encouraging this enterprise in many other respects. Besides affording a market for her manufactured articles and for her coal, which must in time become of great value, Tuscaloosa being the nearest point to the Gulf and South Atlantic coasts where supplies of coal for steamers can be obtained, this railroad will likewise present to her a cheap, direct, and expeditious communication with the producing regions of Tennessee and Mississippi. The supplies for her manufacturing population will thus become cheap and abundant, and will enable her with her acknowledged health and her advantges to compete successfully with other manufacturing places.

When the main line is extended to the distance of about 276 miles from Mobile, it will be nearly due west from the western terminus of the Tuscumbia and Decatur railroad. By extending this railroad westwardly only about thirty-five miles, a connection can be formed with the Tennessee valley and north Alabama,—a section of country completely cut off from all intercourse, except by the tedious and dangerous navigation around by the Tennessee and Ohio rivers, and a region productive in cotton, corn, grain, and stock, and abounding in iron, coal, and marble. Thus, too, will be accomplished the long desired connection of the waters of the Tennessee with those of the Alabama and the Gulf of Mexico, in the cheapest, most expeditious, and practicable way which can be selected.

At the distance of about 295 miles from Mobile, a connection with the Memphis and Lagrange railroad can be formed by running a lateral branch of perhaps not more than 30 miles. This connection, independent of commercial advantages, would be of great benefit in a military point of view, Memphis being the site selected by Congress for the establishment of a navy yard for the construction and equipment of steam vessels.

The main line can be made to form a juncture with the Tennessee river at or near Savannah, or at Perryville, which is in the vicinity of extensive beds of iron ore. At either place it would intercept the train of the vallies on both sides of the Tennessee river, which now has to perform a tedious voyage around by the Tennessee, Ohio, and Mississippi rivers, of from four to five hundred miles before it arrives at the same parallel of latitude as the point of departure. From either Perryville or Savannah, at the great elbow formed by the Tennessee river, a branch might be made to Nashville, avoiding altogether the Cumberland Mountains, which present many obstacles of a serious kind to any other approach to Nashville from the sea-ports on the south Atlantic coasts. This branch to Nashville will form a link to the great chain of railroads now being projected to connect the Eastern and Middle with the Southern states by running a line of railroads to the south and east of the Ohio river, and of which the Baltimore and Ohio railroad is the commencement. By the proposed route, Nashville can have a much more direct and expeditious communication with a better seaport for her purposes, and by far over a more favorable route than by the route she is now seeking to establish, via Chatanooga. That this branch to Nashville, considered as a part of a line which must be formed at no distant day to connect the Northern, Eastern, Middle, and Southern States together, is of great importance there can be no question, when it is considered that it will run through some of the richest agricultural portions of the Union.

Through the western district of Tennessee are inexhaustible beds of marl, cropping out at the surface. This valuable material for agricultural purposes will form a great article of transport.

There is no route for a railroad in the Union to compare with this. Here is a main continuous line of 440 miles in length, running without crossing navigable rivers or mountains, through the richest portions of three of the most productive States, where they are in a great measure deprived of all kinds of communication, terminating at one end at a desirable sea-port, and at the other where it can command the trade and travel of eight States and the western territories, with lateral branches extending by short distances into the richest and most varied agricultural and mineral regions, which, although passing through different State governments, will be governed throughout by the same laws, subject to the same institutions, and will be under the same management and responsibility.

Annexed are two tables of approximate distances, the one from the city of St. Louis to the different southern ports, and the other from the mouth of the Ohio to the same points. These tables show conclusively the great advantages possessed by Mobile in being the nearest seaport to the central points of the western country:

		Miles.
Approximate distance from St. Louis to	Mobile,	590
" " "	New Orleans, by the river,	1286
" " "	Mouth of the Mississippi,	1390
" " "	Savannah,	750
" " "	Charleston,	775
Approximate distance from Mouth of the Ohio to	Mobile,	440
" " " " " "	N. Orleans, by the river,	1112
" " " " " "	Mouth of the Mississippi,	1216
" " " " " "	Savannah,	600
" " " " " "	Charleston,	625

At this late day it will not be denied that railroads, from their uniformity of action, speed and certainty, and from the uninterrupted communication which they preserve, not being "arrested by drought, nor suspended by frost," have the decided preference in the conveyance of passengers and light goods, over all other methods. At a speed of twenty miles per hour, the trip for passengers can be performed from the mouth of the Ohio to Mobile, in twenty-two hours. The trip between Mobile and New Orleans is now made in fourteen to sixteen hours. With the railroad, therefore, the transit could be made between New Orleans and the mouth of the Ohio in from thirty-six to thirty-eight hours. By the river route it is now performed in about seventy-two hours down, and ninety-six hours up, or on an average of eighty-four hours, being a difference in saving of time in favor of the railroad of from forty-six to forty-eight hours in the transit to New Orleans, and from seventy-six to seventy-eight hours to Mobile. There can be no question then, that the greatest part of the travel arriving at the junction of the Mississippi and Ohio rivers, destined for the South, will take the direction of the railroad, and the same remark may be applied to the travel and light goods going North. We assert further, and we think it might be proved that the railroad will obtain the transportation of a large portion of the heavy goods which have to await the rising of waters, and the breaking up of ice, and that it will hold a close competition with the Mississippi steamboats in the transportation of freight of all descriptions. To support this assertion, reference is made to the immense amount of capital invested in steamboats on the Mississippi, the dangers of its navigation, and the consequent high rates of insurance, the great expenses attendant on running steamboats, the injury done to particular kinds of freight, and the losses thus occasioned in their value, and finally to the fact, that freight has to be transported on the river one thousand one hundred and twelve miles from the mouth of the Ohio to New Orleans, in contra-distinction to about four hundred and forty miles, the distance by railroad from the same point to the city of Mobile.

Nor is this assertion based upon the above facts alone. Although it may be said that we are in the infancy of railroads, yet attempts have been made by railroads successfully to compete with river and canal navigation.

Until within the last few years, the produce which passed to and from the upper part of Georgia, was transported on the Savannah river. It is now nearly all carried on the South Carolina railroads. The Central and Monroe railroads terminating at Savannah, have taken away the freight from the Ocmulgee and Altamaha rivers. The successful competition of the Philadelphia and Reading railroad with the Schuylkill canal, is familiar to all. More recently a charter has been granted, and the stock subscribed for a railroad to run *along the banks of the Hudson* river, which affords the safest and best river navigation in the world. The navigation on the Mississippi on the contrary, is attendant with the greatest dangers and expenses; this railroad, instead of running along its banks, cuts off nearly six hundred and seventy-two miles in a distance of one thousand one hundred and twelve miles, and terminates at a sea-port. The railroad will not have to contend against an annual loss of nearly $3,000,000 due to the dangers of river navigation, or against an insurance of one and a quarter per cent. on the value of the cargoes, and from twelve to eighteen per cent on the value of the hulls.

In Hunt's Merchants' Magazine, for August, 1846, it is stated "that the Reading railroad, ninety-two miles in length, transported in 1845, eight hundred thousand tons of coal, and in the single month of July, 1845, one hundred and four thousand tons. The business for the year 1846, is estimated at one million two hundred and twenty thousand tons, which is equivalent to seven million five hundred thousand bales of cotton; more than three times the entire crop of the United States. This business was performed at the rate of one cent per ton per mile, or one dollar for one hundred miles, one-half of which was shown to be profit." This road is, however, level, or has a descending grade towards the point of delivery of the freight. It is well known that the Mobile and Ohio road, with the exception of a small portion, can be located with the same advantage as the Reading railroad; but admitting that the amount of ascending grade to be overcome is one thousand feet, the additional expense incurred in passing over this elevation could be nearly ascertained by adding fifty miles to the measured air line of the road, and calculating the motive power for this length, and by applying the other expenses to the real length of the road.

To be on the safe side, however, we suppose that all the expenses of the railroad have augmented by the addition of fifty miles to the actual length of four hundred and forty miles, this would give for the expense of transporting freight from the mouth of the Ohio to Mobile, two dollars and forty-five cents per ton.

The actual expenses per mile run by the trains on the Georgia railroads including maintenance of way, engines, cars, repairs, &c., were for 1846 .60 .3 cts. The average expense per mile run of the principal railroads at the north for the last four years was 82 cts. According to E. H. Derby, Esq., the expenses on the Massachusetts railroads were 65 cts. per mile run, and with large traffic 40 cts. per mile run.

A locomotive which will haul from *one thousand to twelve hundred tons* on a level road at a speed of ten miles an hour is no "*uncommon* *machine.*" On the Philadelphia and Reading railroad they carry on five hundred tons, each trip, distributed in one hundred cars.

With regard to passengers "estimating the weight of one hundred passengers and the required cars for transporting them equal to twenty-seven tons, the weight of two hundred and fifty passengers would be sixty-seven tons; this weight can be drawn with ease at the rate of from thirty to thirty-five miles per hour by an engine of twelve tons, and an engine of fifteen tons can draw three hundred passengers at the same speed."

From the above data the following tables are constructed. It will be perceived that the number of tons per train vary from five hundred down to one hundred, and the number of passengers vary from two hundred down to seventy-five per train, while the cost per mile run and the distance are constant quantities:

A.– TABLE I.

Showing the cost of transporting freight at seventy-five cents per mile run:

No. of tons per train.	Expense per mile run.	Distance miles.	Cost of transporting 1 ton of fr'ht fm. mouth of the Ohio to Mobile.	Distance.	Cost of transporting 1 ton freight ¾ the distance between mouth of Ohio and Mobile.
500	$0. 75	440	$0. 66	330	$0. 495
400	"	"	0. 825	"	0. 618
300	"	"	1. 10	"	0. 825
200	"	"	1. 65	"	1. 2375
100	"	"	3. 30	"	2. 475

A.—TABLE II.

Showing the cost of transporting freight at one dollar per mile run:

No. of tons per train.	Expense per mile run.	Distance miles.	Cost of transporting 1 ton of fr'ght fm mouth of the Ohio to Mobile.	Distance.	Cost of transporting 1 ton freight ¾ the distance between mouth Ohio and Mobile.
500	$1. 00	440	$0. 88	330	$0. 66
400	"	"	1. 10	"	0. 825
300	"	"	1. 4666	"	1. 10
200	"	"	2. 20	"	1. 65
100	"	"	4. 40	"	3. 30

B.—TABLE I.

Showing the cost of transporting passengers at $0. 82 per mile run:

No. of passengers per train.	Expense per mile run.	Distance miles.	Cost of transporting 1 passenger from mouth of Ohio to Mobile.	Distance. miles.	Cost transporting one passenger half the distance thro'.
200	$0. 82	440	$1. 804	220	$0. 902
150	"	"	2. 405	"	1. 202
75	"	"	4. 810	"	2. 405

AGRICULTURE OF THE SOUTH AND WEST.

1.—DESTRUCTION OF THE COTTON CATTERPILLAR.

WE were favored with the subjoined letter, some time ago, from a gentleman formerly resident in Florida, and made an extract from it. We notice since that others have advanced similar views, and the subject is certainly deserving of attention:

"The caterpillar is the origin of the army worm, and as ploughing cotton fields is not performed until near the time of planting, they remain undisturbed until they have so far gained maturity, that they are not destroyed by the plough, and at that season they are not apt to be injured by frosts; soon after they begin to feed on tender vegetation, lay millions of eggs, which mature so as to need food, and thus they increase until they deserve the name of army worm. Their effect is only too well known.

"Rainy, cloudy weather, produces them fastest; hot dry weather is not so favorable, but if the heat is too great, they can soon get beyond the heat in the earth, even if they should feed at night. They will find places to spend the winter, not only in the ground, but under wood, in the crevices of the rough bark of stumps or trees. If no remedy is found to exterminate them, they will increase until the cotton country will share the fate of Egypt.

"Now for the remedy. So soon as a field, or part of a field, is relieved of its crop, cut down all the stocks, set fire to them some clear, dry day; and cause the fire to run over the field. If the stocks do not furnish a sufficiency of material to produce a good fire, pine or oak leaves should be added. The stumps and standing trees will take fire, and the deposit of the eggs will be reached by the devouring flames, and the origin of the caterpillar and fly will thus be destroyed. Adjoining woods, and if possible, fences should be removed, and be subjected to the cleansing effect of the fire. This is an easy and will be an effectual process, which will again cause cotton fields to repay the planter by a good product.

"I say to the industrious cotton planter, run fire over your cotton fields, and you will secure your usual product. So soon as the cotton is so far advanced as not to be subject to injury, if hogs are turned into the field they will hunt the catterpillars, eat and get fat on them; will, in fact, take them in preference to corn. The planter will thus turn this destructive insect to profit by fattening hogs."

2.—THE PORK TRADE.

The following will show the number of hogs slaughtered during the past two years, and the different points of the Trade:

	1846.	1847.
Wheeling	18,000	6,000
Ripley	21,000	9,000
Scioto Valley	93,000	65,000
Lawrenceburg	20,000	8,000
Maysville	11,000	6,000
Madison*	66,000	45,000
Warsaw	8,100	4,800
Westport	18,000	13,300
Louisville	102,600	63,000
Clark County, Ia.	11,000	2,500
New Albany	6,000	5,000
Cincinnati	305,000	225,000
Total	678,100	452,6000

3.—FLOUR.

Price of flour, in April of each year, for a series of fifty years, commencing in 1795:

1795	$12,00	1805	13,00	1815	9,25	1825	5,37	1835	5,75
1796	16,00	1806	7,50	1816	7,37	1826	5,25	1836	8,00
1797	10,00	1807	8,25	1817	14,75	1827	6,00	1837	10,25
1798	7,00	1808	6,00	1818	10,25	1828	5,50	1838	8,25
1799	10,00	1809	7,50	1819	8,00	1829	8,00	1839	7,75
1800	10,00	1810	8,25	1820	5,37	1830	5,00	1840	5,50
1801	13,00	1811	10,50	1821	4,25	1831	7,25	1841	5,25
1802	9,00	1812	10,75	1822	7,00	1832	5,62	1842	6,62
1803	7,00	1813	13,00	1823	7,75	1833	5,87	1843	5,60
1804	7,75	1814	14,50	1824	6,62	1834	5,50	1844	5,00

The highest price quoted, was in 1796, when it sold for $16,00. The lowest, in 1830 and 1844, when it was quoted at $5,00. The average quotation for fifty years is $8,14.—*Hazard's Gazetteer.*

4.—SUGAR GROWTH OF TEXAS.

We clip the following from the Galveston News: "The numerous causes of failure to which the cotton crop has been liable both from the irregularities of the seasons, as well as the destructive ravages of the worm, (against which no precaution or foresight of the planter could avail any thing,) have been the occasion of so many disappointments and of so much suffering throughout the Southern States, that the people have been compelled to look upon this staple (especially in view of the very low prices of late years) as a very unsafe source of revenue upon which it is impolitic as well as highly imprudent for the whole Southern country any longer to place its chief dependence. On the contrary, although the climate and soil suited to the production of sugar, is much more limited, yet it has been proved by some twelve or fifteen years of experience that there is no agricultural product upon which the planter in Texas can rely with more confidence for a full and pretty uniform return proportioned to the labor expended. While this staple is far more exempt from injury arising from the variableness of our seasons, it has hitherto escaped the ravages of every insect. These considerations are now having their influence upon our planters, until there are very few within one hundred miles of the coast who are not making exertions to divert their labor and capital to the production of the cane.

5.—EFFECTS OF THOROUGH DRAINING UPON HEALTH.*

But draining has been found beneficial not only to the soil itself, to the processes of laboring it, to the climate in reference to crops, and to the growth of trees, but also to the health of the laboring population. Dr. Charles Wilson, Kelso, when comparing the health of the laboring population of the district of Kelso in two decennial periods, from 1777 to 1787 and from 1829 to 1839, came to this conclusion in regard to the effect of draining, that "our attention is here justly attracted by the extraordinary preponderance of cases of ague in the first decennium, were they present an average of one seventh of all cases of disease coming under treatment; and a closer examination of the separate years shows this proportion rising more than once to even as high as one fifth; while, in the second decennium, the average proportion is only the sixth of one hundred of the general mass of disease. Ague, then, is as well known to the older inhabitants of the district, was *at one time regularly endemic among us;* affecting every year a varying, but always a considerable portion of population, and occasionally, in seasons of unusual coldness and moisture, spreading itself extensively as an endemic, and showing its ordinary tendency, under such circumstances, of passing into a continued and more dangerous type. Ague was not usually in itself a disease of great fatality, the deaths recorded at the Dispensary having been only 1.81 per cent. of the cases treated—a sum which denotes its absolute mortality, while its relative mortality was 0.26, when viewed in connection with that from all other diseases.

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* Stephens—Published in Farmers' Library.

Still, if we keep in view how frequently it was known to degenerate into fevers of a worse form, and how often it terminated in jaundice, 'obstruction of the viscera of the abdomen,' and consequent dropsies; or even if we take into consideration the frequency of its recurrence, and the lengthened periods during which it racked its victims, we shall see much reason to be thankful that a plague so universal and so pernicious has been almost wholly rooted out from among us. Those who recollect what has been stated of the former swampy nature of the soil in our vicinity, and of the *extedsive means which have been adopted for its drainage*, will, of course, have no difficulty in understanding why ague was once so prevalent, and under what agency it should now have disappeared; and will gratefully acknowledge the *two-fold value of those improvements which have at once rendered our homes more salubrious and our fields more fruitful*." *

But the most palpable advantage of draining land is the *profit* which it returns to the farmer. A few authenticated instances of the profits actually derived from draining will suffice to convince any occupier of land of the benefits to be derived from it. "I am clearly of opinion," says Mr. North Dalrymple of Cleland, Lanarkshire, "that well autenticated facts on economical draining, accompanied with details of the expenses, value of succeeding crops, and of the land before and after draining, will be the means of stimulating both landlords and tenants to pursue the most important, judicious, and *remuneraiing* of all land improvements The statements below will prove the advantages of furrow-draining; and as to the *profits* to be derived from it, they are *great*, and a farmer has only to drain a five acre field to have occular proof upon the point." †

Without entering into all the minutiæ of the statements given by Mr. Dalrymple, it will suffice here to exhibit the general results. 1. One field containing fifty-four Scots acres cost £303 7s. to drain, or £5 12s. ‡ per acre. The wheat off a part of it was sold for £11, and the turnips off the remainder for £25 13s. 4d. per acre. The soil was a stiff chattery clay, and let in grass for 20s. an acre; but in 1836, after having been drained, it kept five Cheviot ewes, with their lambs upon the acre. 2. Another field of 18 acres cost £5 9s. the acre to drain. The wheat off a part of it fetched £13, the potatoes off another part £15 15s., and the turnips off the remainder £21 per acre. The land was formerly occupied with whins and rushes, and let for 12s. the acre; but when let for pasture after being drained, Mr. Dalrymple expected to get 50s. an acre for it. It may be mentioned, that the drains made by Mr. Dalrymple were narrow ones, 30 inches in depth, filled 18 inches high with stones or scoriæ from a furnace, and connected with main drains, 36 inches deep, furnished with tiles and soles. §

Mr. James Howden, Wintonhill, near Tranent, in East-Lothian, asserts from his experience, that although drains should cost as much as £7 the acre, yet on damp, heavy land thorough-draining will repay from 15 to 20 per cent. on the outlay. ||

A farmer in Lanarkshire, who thorough-drained one-half of a four-acre field, and left the other half undrained, in 1838, planted the whole field with potatoes, and from the drained portion realised £45, while the undrained only realised £13 the Scotch acre. *

A very successful instance of drainage is related to have taken place on the estate of Teddesley Hay, near the River Penk, in Straffordshire, belonging to Lord Hatherton, under the direction of his agent, Mr. Bright. The soil is represented of a light nature, resting on a subsoil of stiff clay. The results show an increase of £435 2s. 4d. a year by draining, with an expenditure of only £1,508 17s. 4d., or 29 per cent. on the capital expended. †

Mr. George Bell's experience of the good effects of thorough draining on turnips gave, in the instance of Aberdeenshire yellow bullock turnips, which were raised from bone-dust in 1838, a crop of 16 tons 16 cwt. on two acres; whereas the same extent of undrained land only produced 6 tons 4 cwt. the acre. In 1839 the produce of potatoes on drained land was 175 cwt. the acre, whereas that on undrained land was only 70 cwt.

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* Quarlerly Journal of Agriculture, vol. xii. † Ibid., vol. viii.

[‡ Calculate the pound at $4,80, and the shilling at 22 cents. *Ed. Farm. Lib.*]

§ Quarterly Journal of Agriculture, vol. viii. || Ibid., vol. viii.

* Ibid vol. x. † On land drainage.

6.—MINERALS OF SOUTH CAROLINA FOR BUILDING PURPOSES, ETC.*

Building Materials.—It is owing to the difference in the facilities for transportation that the granite, marble and flag stone of Massachusetts and Connecticut are better known in Charleston and other cities, than those of the State, notwithstanding the abundance and quality of the latter.

In chosing building materials, strength and resistance to external agents, are among the principal requisites. For strength, granite stands high in the scale of building materials. Its tendency to decay may be ascertained where it has been exposed to the weather for a long time. If the felspar in a fresh fracture appears dull, and the rock is found to absorb moisture, or to contain much iron pyrites, it should be rejected, although otherwise it may present but little signs of decay. The fine grained granite of uniform appearance and structure, is generally to be preferred where strength and durability are prominent objects. The granites and sienite around Columbia are of this character.

Among the beautiful granites of the State, the porphyritic granite of Camden and Buffaloe creek, and the red granite, near Columbia, are conspicuous.

Of the sienites, those found in Abbeville, Fairfield and Lexington, are the most beautiful.

The former resembles the Quinsy granite, and the latter is remarkable for its white felspar, contrasting so strikingly with the black chrystals of hornblende.

The white and variegated marbles of Spartanburg and Laurens, form excellent materials for building, and ornamental purposes. When quarries are opened on the Saluda, it is probable from the bands of actynolite running through the beds, that some handsome slabs may be procured.

Flagging Stones.—Gneiss, besides furnishing an excellent building stone, is often sufficiently slaty in its structure to allow being split into slabs. A fine quarry of this sort is open in Pickens. In the lower part of York, Gneiss is found having a similar structure; it passes into mica slate, which presents every appearance of making an excellent flagging stone. As this locality is very near the Catawba, a trial might be made of it in flagging the walks in front of the State House. The mica slate found in Fairfield is equally promising.

Fire Stones.—Stones, useful for this purpose, must not only be infusible, but must have no tendency to crack or exfoliate. At the Iron Works, quartz rock is preferred for hearth stones and other similar purposes. As this rock frequently passes into compact or common quartz, and is then entirely useless, it should be remembered that the more arrenaceous the rock is, the better, the slight cohesion of the particles allowing expansion without cracking or exfoliation. It should be free from iron. Mica slates make good fire stones, when free from garnets and iron.

Soap Stone.—This exceeding useful rock is of very fine quality, at some of the localities enumerated. The ease with which it can be shaped, added to its strength and refractory qualities, make it one of the most valuable of fire stones. For this purpose the softer varieties should always be chosen, and not those that contain quartz. A variety of this rock passing into Chlorite, may be seen formed into tablets in many of the churchyards in the upper part of the State.

Porcelain Earth.—This material abounds through the primary region, wherever the felspathic granite is found in a state of disintegration. Localities are so well known as "chalk hills," that they need not be enumerated. A long known locality occurs above Pendleton, and along the base of the mountains in Pickens, it is seen in several places; in Greenville near where the Pendleton road crosses the Saluda; and in Abbeville near the village, a remarkable locality was pointed out to me by Mr. Speirin. This depost is the result of the decomposition of Eurite. A similar deposit is found near Cherokee Ford, where it is used as a fire clay; and it is seen again on Mr. Hardin's land, on the branches of King's creek.

But the finest exposures of this earth are found in the deluvium. As there is no hope at present of a manufactory of porcelain in the State, this earth will be found an excellent material for fire bricks. When it is found in beds in the deluvium, it is so very fine that coarse sand must be mixed with it. But where it is found in place, it generally contains quartz in sufficient quantity.

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* Tuomey.

Common pottery is much improved, both in quality and appearance, by the addition of this earth, and from its abundance, were a little more taste and skill combined in the manufacture, the pottery of this State would be unrivalled. A good material for glazing pottery will be found in the undecompesed felspar of the granites where it abounds; it should be ground with borax, and brought to a proper consistency by adding water.

Glass Making.—The pure white sand of the quartz rock, as well as that resulting from the decomposition of the Hornstone at Brewer's mine, would answer well for the manufacture of glass.

The pyritiferous slate at Hale's mine, and at the Cowpens, are covered with a white efflorescence of sulphate of iron. At the former locality, the quantity of slate thrown out from the mine, is sufficient to justify an attempt to manufacture copperas from it.

Paints.—Red and yellow ochre abound in Chesterfield District, of very fine quality, yet they seem scarcely to be used, even for domestic purposes. All the preparation they need is simply grinding.

Whet Stones.—There are many localities where the micaceous and talco micaceous slates would answer well for whetstones. A noted locality occurs in York, and another at Ewbank's, near Brewer's mine, in Chesterfield, and in the upper part of Lancaster. There are many others that I had no opportunity of examining.

Coal.—A glance at the table exhibiting the rocks of the State, will show at once that there is no possibility of the occurrence of coal—the immense series of rock which include the coal formation, between the clay slate and the new red sand stone, being entirely wanting.

Even this negative information, should it lead to greater economy in the use of fuel, particularly at the iron works, would not be useless.

The geologists of England are cautioning their countrymen against the wilful destruction of coal at home, and its unlimited exportation to foreign countries, for her coal beds, though immense, are not inexhaustible.

The preservation of the forests in the mining districts of the State cannot be too strenuously urged upon the owners of the land in those districts.

The geologist who would close a report on the minerals and mines of the State, without adverting to the frightful disregard of the future every where evident, would discharge his duty but indifferently.

If an individual opens a limestone quarry, he supplies himself from the surface of the bed, throws back the refuse and superincumbent earth, to be removed by some one else, or perhaps by himself. A gold mine is destroyed that a rich vein may be followed which offers immediate profit, and the surface of the beds of iron ore is skimmed over to the destruction of the underlying beds, because a few tons can be obtained at a cheaper rate. Such a course as this needs no argument to point out its ruinous consequences.

7.—THE COPPER MINES OF LAKE SUPERIOR.*

It appears, then, from the above facts, that the Lake Superior copper region does not suffer in comparison with the best mines yet discovered on the globe. On the other hand, it is clothed with such strong characteristic, exhibits such surprising magnetic intensity, and such positive improvement whenever mining is judiciously prosecuted, that, from an honest conviction, we are obliged to believe it altogether equal, if not superior, to either Cuba, Cornwall, or the Ural. If so, it will serve as the foundation of permanent wealth for ourselves and our children; and all we have to do is to see that the mines are worked with skill and economy. For, be assured, the Lake Superior mines, as a general thing, are not going to fail for the want of copper, or for the want of silver in the veins. If they fail, it will be only for the want of *capital*, or from capital *misapplied.* Let no one, however, suppose that he can purchase a few shares of the stock in a company, and in a few weeks, or a few months, rush into a fortune. He must in the exercise of good common sense, expect to sow before he can reap, and to allow time for the seed to germinate; and then time for the blade, and time for the ear, before he obtains a harvest of full corn in the ear. He must recollect that the country on Lake Superior is yet covered with a multitude of Indians, and a vast primeval forest, so that every substantial article of provision must be transported thither; that the entrance to this great inland sea is blocked up by a cataract one mile in length, so that it will be one or two years before this construction (which affords available water power nearly equal to Niagara) will be obviated by a broad and deep ship canal; that the same length of time will be required to open roads and bring into requisition hydraulic, steam, as well as horse power, as additional facilities for working the mines. When cargoes of provisions and all needful supplies, can be cheaply freighted from Buffalo, Cleveland and Detroit, without transhipment, and in return take copper, fish, lumber, etc., to Buffalo, or tide waters, by adopting the route of the Welland Canal, then may he be able to reap a plentiful harvest from a comparatively small amount of seed, or by being the owner of a few shares of stock judiciously managed by some responsible and enterprising mining company.

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* Professor Sheppard.

AMERICAN CITIES.

1.—The City of Philadelphia.*

Philadelphia possesses important advantages over every other city in the Union. The climate is mild and salubrious. Living is cheap, and the markets unrivalled. Coal and iron, the great elements of power in extending manufactures, are more abundant, and cheaper than in any other city. The coal trade already employs annually upwards of three hundred thousand tons of shipping more than the tonnage of New York from foreign ports, and this business must continue to increase rapidly. Other cities will thus become our debtors for the amount of their supplies.

Philadelphia is a great distributing market, and will be able to exchange her merchandize for the produce of the West, to the fullest extent, by the new railroad. This must, of course, constantly augment her foreign trade, which is now rapidly increasing. At present vessels are engaged to load at this port from Boston, New Bedford, New York, and other places in our country, and from Europe. We MUST have another line of packets to Liverpool, and one to Havre, both of which will be well sustained.

Coal having been found better than water, as a moving power, Philadelphia is evidently the best place in the Union for manufacturing operations. With all the legislative drawbacks upon her, we have the satisfaction of knowing that her manufacturing establishments, conducted by private enterprise, are in advance of those of any other city in the Union. If we had sufficient leisure, we could easily demonstrate this beyond a cavil. One or two cases will suffice to illustrate our position. Our enterprising fellow-citizen, Joseph Ripka, owns four factories at Manayunk, which contain eighteen thousand spindles, and seven hundred and fifty power looms, and give employment to eight hundred hands, and consume three thousand bales of cotton annually. In addition to these establishments, he owns large print-works on the Pennypack, and a large carding and spinning factory in Chester County. The Richmond Chemical Works of the Messrs Lennig, are well known, but it is not generally known that these enterprising manufacturers have erected at Bridesburg seven large buildings for the manufacture of bleaching powders, soda ash, alum, copperas, blue vitriol, etc. The buildings erected for carrying on these large operations, are constructed of stone or brick, in the most substantial manner, and are of the following dimensions, viz.: 325 feet by 82; 160 by 82; 150 by 75; 125 by 78; 60 by 50; 75 by 26; and 50 by 26. The chimney for the bleaching powder factory is 125 feet high, 7 feet in diameter at the bottom, and 8 at the top, and contains 150,000 fire bricks. The wharf of this establishment is 900 feet in length on Frankford Creek, extending into the Delaware. These works were commenced and nearly completed before the repeal of the Tariff of 1842.

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[*] Commercial List.

2.—City of New Orleans.

Foreign Trade.—Arrivals.

Foreign Vessels from Foreign Ports.	Jan.	Feb.
Ships,	34	11
Barques,	42	11
Brigs,	14	9
Schooners,	3	3
Total,	75	34
Whole number,		109

American Vessels from Foreign Ports.	Jan.	Feb.
Ships,	39	10
Barques,	13	8
Brigs,	50	14
Schooners,	17	5
Total,	119	37
Whole number,		156

The tonnage of foreign vessels that entered this port in January, was 37,765 tons; for February, 14,900 tons—total amount of foreign tonnage 52,665 tons. The tonnage of American vessels from foreign ports for January and February, was 41,738, being 10,927 tons less than that of the foreign vessels from foreign ports. The foreign ships, 109 in number, were manned by crews in all amounting to 2,140 men; the American vessels, 156 in number, were manned by crews in all 1,561 men.

Condition of the Three Municipalities.

The First Municipality owes, exclusive of the old city debt, $919,611 92. Of this sum $25,885 56 is past due. There will mature in 1847, $387,180 11; in 1848, $104,872 93; in 1849, $45,805 11; in 1850, $12,170 79; in 1851, $41,123 42, and in 1862, $246,000.

The Second Municipality owes, exclusive of old city debt, $2,700,000. Of this sum $450,000 is past due. There will mature in 1847, $47,000; in 1851, $172,000; in 1856, $262,000; in 1857, $200,000; in 1858, $40,000; in 1863, $345,000; in 1864, 534,000; in 1865, $56,900; in 1866, $48,000; and in 1868, $292,000.

The Third Municipality owes, exclusive of the old city debt, $845,342 27. Of this amount $269,262 27 is past due. There will mature during the present year, $45,440; in 1848, $43,400; in 1849, $75,120; in 1850, $76,340; in 1851, $71,300; in 1852, 67,260; in 1853. $63,420; in 1854, $56,720; in 1855, $41,440; in 1856, $5,400; in 1870, $30,240.

The receipts of the First Municipality during the past year, were $382,469 85; while its disbursements were $338,619 78. Its receipts for the present year are estimated at $414,239 34; its disbursements at $413,619 79.

The receipts of the Second Municipality during the past year, were $519,321 40; while its disbursements were $591,713 94. Its receipts for the present year are estimated at $770,000; its expenditures at $550,000.

The receipts of the Third Municipality during the past year were $115,777 42; while its disbursements were $127,374 80. Its receipts for the present year are estimated at $108,100; its expenditures at $81,000.

The old City Corporation owes $2,945,000. Of this amount about $80,000 is past due. There will mature in 1850, 200,000; in 1851, 177,000; in 1853, 150,000; in 1854, 9,000; in 1855, 459,000; in 1859, 100,000; in 1860, 200,000; in 1863. 200,000; in 1864, 404,000; in 1866, 500,000; in 1876, 46.000. These bonds bear an interest of five per cent., excepting those falling due in 1850, 1855 and 1860, which bear six per cent. interest.

The entire debt of the Municipalities at this time is $6,409,954 19. Of this amount 2,945,000 was contracted prior to the division of the city, in 1836, and the balance, 3,464,954 19, has been contracted since. The old city debt all matures before 1847; the debt of the First Municipality before 1863; that of the Second, before 1868, and that of the Third before 1870.

BRANCH MINT AT NEW ORLEANS.

Coinage of 1845.	
Eagles,	47,500
Half-Eagles,	41,000
Half-Dollars,	2,094,000
Dimes,	230,000
Value of Gold,	$680,000
Value of Silver,	1,070,000
Total,	$1,750,000

Coinage of 1846.	
Eagles,	81,780
Half-Eagles,	58,000
Quarter-Eagles,	66,000
Dollars,	59,000
Half-Dollars,	2,304,000
Value of Gold,	$1,272,800
Value of Silver,	1,211,000
Total,	$2,483,800

3.—MANUFACTURING CAPACITIES OF CHARLESTON.

We have commented in a previous number upon the renewed enterprise which is manifesting itself in our sister city of Charleston, and take this occasion to introduce a few reflections upon her manufacturing facilities, which we extract from the columns of the Courier:

The Command of Capital.—Charleston possesses, within her own bosom an ample supply of capital. There is a surplus at present of at least three millions of dollars in a line of investment that does not yield on an average of more than five per cent. per annum. The indisposition of capitalists at the South to change their investments, keeps our banks overcharged to repletion with the monied means of our citizens. The diversion of these means from this narrow line of employment, to manufacturing purposes, would, we are confident, in a short time, double the dividends. The difficulty of overcoming the *vis inertia* of our citizens is, we are satisfied, the only obstacle to success.

Improvement in the Mechanic Arts.—It is impossible to estimate too highly the benefits to those branches of industry denominated the Mechanic Arts, from the establishment of only three or four factories either in the heart or immediate suburbs of our city. The impulse which will be given to the inventive faculties of our ambitious young men, and the prospect of full employment to numbers who cannot, at ordinary trades or employments, find avenues to labor and means of subsistence, are among the prominent advantages. No city can furnish those diversified occupations which will absorb its youth, unless the mechanic arts, connected with the manufacture of machinery, are combined with its general labor. Let us have our machine shops here as well as our furnaces, more generally than at present, and the demand on them would invigorate those arts which must perish without the aliment of manufacturing industry.

4.—THE CITY OF ST. LOUIS.

The St. Louis Union gives us many interesting particulars in relation to the present state of things in that city, and the improvements in progress. There are in St. Louis fifteen flour mills:

	BBLS.
1. Pages' Mills,	30,000
2. Missouri Mill,	25,000
3. Eagle Mill,	24,000
4. Union Mill,	20,000
5. Star Mill,	20,000
6. Washington Mill,	18,500
7. Franklin Mill,	16,000
8. Mound Mill,	13,000
9. Chouteau's Mill,	12,000
10. Phœnix Mill,	11,000
11. Park Mill,	10,000
12. Tucker's Mill,	9,000
13. Centre Mill,	6,000
14. Farmer's Mill,	6,000
15. Paragon's Mill,	3,000
	223,500

Manufacture of White Lead.—Blow's Establishment.—The quantity of lead annually used in this establishment, it is stated, is about one million of pounds, or over fourteen thousand pigs. Three-fourths of this amount are converted into white lead, and the other fourth into red lead and litharge. Large amounts are shipped to southern points in the Mississippi Valley, besides principally supplying the St. Louis market. During last year, the amount of white lead introduced into that market from abroad was but 1538 kegs, while the number of kegs *sold* from this one establishment was 48,000. A few years ago three-fourths of the white lead used in St. Louis were from the manufactories east of the mountains, principally from Philadelphia.

The vinegar used in the manufacture of white lead is also distilled in this establishment. The amount produced last year was about two thousand barrels. There is also a keg manufactory within the building.

Besides the different oxydes of lead, there are manufactured by Mr. Blow, vast quantities of linseed and castor oils. The number of gallons of the former manufactured in 1846, was 62,000, which was more than double the amount imported. Of castor oil, 126,000 gallons were produced, 20,000 gallons of which were shipped to Europe, and the rest sold in American markets, constituting two-thirds of the whole quantity used in the United States. About 600 tons oil cake were exported from St. Louis the past season, all of which was sent to Europe.

The residuum of the castor bean, mixed with coal, makes excellent fuel, two bushels of the refuse being equal to one of coal. Fourteen hundred bushels of this refuse, and four hundred bushels of coal, make up the amount of a week's fuel.

The establishment keeps constantly employed from sixty-five to seventy hands, and the annual cost of labor and fuel is about $20,000.

5.—City of Savannah.

The following item exhibits the increase of the commerce of Savannah, during the first month of the present year, on the same period of the last one:

Value of Foreign Exports from the Port of Savannah for month of January—

	1847.	1846.
American vessels,	$646,707 75	$91,205 10
Foreign vessels,	392,246 66	170,919 42
	$1,038,954 41	$262,124 52

6.—The City of Galveston.

"The city of Galveston, from which place I date this, is situated on the bay of that name, in what was formerly Vehlin's grant. As a commercial point, it possesses one of the best locations on the Gulf: and as a harbor, is said to be superior to any other on the Gulf between Pensacola and Vera Cruz: while her vicinity to the West Indies, the United States and the Mexican ports, with the Gulf stream at hand to sweep her vessels to the Eastern Atlantic, renders her position for foreign commerce of immense value. The population of the town at this time is variously estimated at from six to nine thousand; I should suppose from the best information and appearance it would reach about a medium in the city proper, and the highest number to include the environs. About one-half the population consists of Americans; the other of trans-Atlantic emigrants—viz: German, Irish, French, Italian, and Spaniards; by far the largest portion Germans, who constitute at least one-third of the whole population. The society appears to be as good as is to be found in any town of a like population; there is more than an average quantum of intelligence, and some decided talent. There are a number of churches, a fine market house, town hall and offices for the municipal court and adjuct offices; two semi-weekly newspapers, a very good American, German and French Hotel, besides numerous smaller houses of entertainment. With the exception of five or six brick buildings, the houses are all built of wood, being frames, and generally exhibit a fine architectural taste. In this respect I do not recollect ever to have seen so many handsome frame buildings at one place, nearly all of which are painted white. The streets are spacious and perfectly straight, running at right angles; unpaved, but being for a hard sandy soil are clean. The stock of merchandise on hand seems to be very large for the market, consisting of every article demanded by the necessities and luxuries of man, and can be had at prices very little, if any thing higher than similar articles can be procured at Frankfort. The public wharfs or quays are numerous, well built, and convenient. The more independent of the citizens live in great comfort, and some of them have the most delightful residences in the vicinity which you can conceive. The gardens are surpassingly beautiful every where. Every variety of tropical shrub, flower and tree grow with vigor and rapidity, and are now as green as a bay tree at the north in mid-winter, or any tree with us in June. The oleander and other flowering shrubs of that character grow from the height of from ten to twelve feet in a few years and are now loaded with fresh and beautiful bloom. During the coldest days this fall the thermometer stood at about 62 degrees Farenheit, though it has ranged for a week at about 74

"Galveston Bay is the largest inlet on the coast. It is about thirty miles in length, and varies from twelve to eighteen in width. The Island of Galveston or San Luis, on which the city is located, stretches along the coast in front of the Bay about thirty miles with an average breadth of about three and a half miles. Its average rise above the level of the water is only four or five feet, and the surface is perfectly level nearly from length to breadth, if we except an occasional bank caused by successive deposites of sand by wind and overflow from northern wind tides. With such an even surface of land it will be perceived the streets are very nearly level and the entire city and suburbs are as if they were built on a slightly graduated plane."

7.—The City of Pensacola.

From the Report of a Committee of citizens: "Pensacola is now the humble dependency of Mobile and New Orleans, but give her this element of strength, and she will at once stretch her invigorated arms across the highway of nations, and hold converse as an equal with the richest emporiums of the old world.

"She is now struggling in the conflict with all those privations which follow in the train of municipal as well as of individual poverty; but let this railroad be completed, and the blessings of education, of refinement, of religious and benevolent institutions, would be added to the comforts of wealth, and make her people wiser and better, as well as richer.

"No city in America, perhaps none in the world, has a harbor combining more advantages for commercial purposes than we have—a depth of water abundantly sufficent for the largest merchantman, with an anchorage perfectly secure against the wildest storm, we lack absolutely nothing in regard to these exterior advantages. Our location is healthy, and the climate delicious; and if we are but put into communication with a fertile back country, we shall then want none of those requisites which are necessary to the making of a great city."

8.—The City of Cleveland, Ohio.

This growing port which represents so large a portion of the commerce of Ohio, on the Lakes, continues still its giants strides as will appear by the statistics below:

Foreign Exports in 1846,	$462,934
Imports for Canada, in 1846,	10,189
Exports Coastwise,	7,040,402
Imports Coastwise,	5,045,495

Cleveland is finely situated for commerce.* Lakes Erie, Michigan and Huron give it a ready access to a wide extent of country. The Erie canal connects it easily with New York and the intermediate places on the canal and Hudson river; the Ohio canal passing through the entire central part of Ohio, connects it with the Ohio river; the Pennsylvania and Ohio canal which joins the Ohio canal at Akron, connects it with Pittsburg, and opens a southern passage to the Atlantic cities, and the Welland canal gives it access to the Canada market. No place on Ohio probably equals Cleveland in natural advantages. It will always be the emporium of northern Ohio, and the existing facilities gives it access to a greater extent of country for trade than perhaps any other city of the west. These advantges have not been unimproved. In 1832 there was 26 sail vessels and one steamer belonging to the port of Cleveland; in 1842 there were 75 sail vessels and 5 steamers. The exports to Canada in 1832 was little or nothing; in 1842 they amounted to $1,016,926. The tonnage of the port in 1842, was 8071 exclusive of steamboats. The vessels that arrived in 1842, was 1418, of steamboats 1050, total 2468. The number of vessels departed was 1412, of steamboats 1050, total 2462. Vessels entered from Canada 356; do cleared for do, 363. Of the imports in 1843 in vessels other than steamers, there were 49,740 pakages and 700 tons of merchandise, 89,067 barrels of salt, 6373 do of fish, 2,229,390 feet of lumber, 4281 thousand shingles, 677 cords of shingle bolts, 1440 burr blocks, 1741 barrels and 645 tons of gypsum, 234 cords of limestone, 5270 bushels of corn, 295 boxes of clocks, 1786 barrels of flour, 4000 hoop poles, 1715 hides, 1609 cedar posts, 408 barrels of water-lime, 145 tons of pig-iron, 25 coaches and 122 tons of marble.

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* Geographical Dictionary—Cleveland, 1845.

AMERICAN STATES.

The Parishes of Louisiana.

Madison.—State tax in 1845, $7,649 25; in 1846, $9,019 98. The amount of immigration into the parish, says the Richmond Journal, has been very great of late years. Steadily the timber goes down, and prosperously the cotton and grain stalks rise up in its place. Population in 1846, 1,500 whites.

	Catahoula.	*Ouachita.*
Number of acres of taxable land, first class,	25,446	25,311
" " " " second class,	46,578	30,282
" " " " third class,	26,886	57,085
Total number of acres subject to taxation,	98,910	112,678
Number of town lots,	1304	150
Valuation of land, town lots, etc.,	$1,063,995	$421,490
Number of Slaves,	2586	2171
Total amount of State taxes for the year 1846,	$4,243 79	$3,413
Number of children between six and ten years,	412	396
Number of children between ten and sixteen years,	355	
Number of barrels of corn,	146,926	80,218
Number of bales of cotton,	5,382	5,942
Number of acres in cultivation in cotton,	8,102	7,498
Number of acres in cultivation in corn,	6719	5,690
Valuation of real and personal property,	$2,000,000	$824,487

The whole valuation of landed property in Louisiana, in 1845, was $98,609,363 95, and the number of slaves, 181,028. Of these Orleans parish possessed $45,503,185; Jefferson, $4,412,775; St. Mary's, $3,632,708; Lafourche Interior, $2,960,000; Rapides, $2,785,790.

2.—Navigation and Wealth in Texas.

The Trinity, the largest river in Texas, takes its rise within ten or twelve miles of Red River, at a point two or three hundred miles to the west of Fulton, which is nearly at the bend of River river, from which place the course of this latter stream is nearly east and west to its head waters near the Rocky mountains. It will, therefore, be seen that the Trinity, running S. S. E. from eight hundred to one thousand miles from our northern boundary to Galveston Bay, quite intersects our whole territory, leaving to the east about half the counties of Texas, and probably more than half the present wealth and population of the whole country. The concurrent testimony of all who have had the best means of knowing, shows that the Trinity has been navigable for light draft steamers at least six months in the year for the last ten or twelve years, as far up as the eastern, or Bois d'Arc Fork, a distance of five or six hundred miles from its mouth by the course on the river. Just below the mouth of this fork, at Mitchell's Bluffs, the roads from Arkansas to Austin and San Antonio cross, at which ferry there are now daily passing about twenty wagons of emigrants and others. This statement is made by a gentleman in this city direct from that country. He represents that whole region, extending from Mitchell's Bluffs, to the cross timbers, as one of the most fertile and best timbered districts in Texas, and as now filling up by planters with unexampled rapidity. This region embraces Mercer's and Peters colonies, the former having now at least two thousand, and the latter three thousand families. From Fannin and other counties adjoining, five thousand bales of cotton have been wagoned this season to Shreveport, a distance of from one hundred and fifty to two hundred and fifty miles. From Shreveport the distance by water to New Orleans is 1500 miles, a great portion of which is difficult and dangerous navigation. The same cotton might reach the navigable waters of the Trinity with from fifty to one hundred and fifty miles of wagoning, and might thence be brought to Galveston with less than half the above distance of boating. These facts, which we believe are substantially correct, are certainly worthy of some consideration by the citizens of Galveston. Is not this city the natural outlet for the produce of the country of which we have spoken? And if it is, is it not important that these valuable privileges should be duly estimated and secured with the least possible delay? —*Galveston News.*

3.—EMIGRANTS TO THE UNITED STATES, 1846.

Maine : : :	5,930	Virginia : : :	82
New Hampshire : :	25	North Carolina : : :	3
Massachusetts : :	15,079	South Carolina : :	408
Rhode Island : : :	83	Louisiana : :	22,148
New York : : :	98,863	Florida : : :	90
Pennsylvania : : :	7,235	Texas : : :	354
Delaware : : :	6		
Maryland : : :	9,337	Total : :	158,648

4.—INDIAN MOUNDS IN LOUISIANA.*

On the left bank of the bayou about a mile from Grand Lake, there stands one of those colossal mounds of shells, which are also found in many parts of the region bordering on the Gulf coast, and other places, which stand out to the eye of the spectator as curious and indelible *vestigia* of the past. It has been often asked, are these gigantic embankments natural or artificial? who built them, and for what purposes were they constructed? On first examining them, the beholder is impressed irresistably with the belief that, whatever may have been their origin, they must be of great antiquity. On the mound of bayou Pigeon there are live oak trees evidently the growth of centuries. The alluvial depositions on and around it conceal its size and shape, and destroy or neutralize the idea of vastness. It is impossible even to guess at the original dimensions; but we have marked traces of its existence at the distance of a hundred yards from what is now the body of the mound. Its foundations are laid broad and deep in the earth far beneath low water mark; is it, then, abusurd to suppose that this herculean mausoleum was once a lonely mountain islet in the great inland sea, which washed the high prairie lands of western Louisiana, and of which Grand Lake is a fragmentary vestige. The shells have become entirely cretaceous, and when removed carefully from their resting places the valves are found *in situ.* In an opening on the summit we picked up several human teeth, the enamel of which was, apparently, in an excellent state of preservation, and a young friend who accompanied us exhumed a fragment of the *os humeri* of a young person, much stained, and so friable that it crumbled to dust between the fingers. We regard this embankment as a mere fragment of the original structure; the tooth of time has deeply indented the perishable materials of which it is composed; the elements of destruction and decay have swept over it and mutilated its fair proportions, but it is still a grand and imposing monument of an age gone by, and of a people who have left us no other trace of their existence. The shelly mounds and embankments of the south, are similar in many respects to the earthen *tumuli* of the west; erected probably by the same people and for the same purposes. The Indians have universally denied, when asked, knowing anything at all of the history of these mounds. No tradition whatever—not the vestige of one—exists, so far as we ever read or heard, among the present Indian races, respecting the time when, or the people by whom these mounds were built. In the immediate vicinity of many of the mounds, and apparently connected with them, are to be seen the remains of ditches and forts, making it highly probable, if not absolutely certain, that the same people who built the one, dug the other. The fortifications are planned with the skill of a scientific engineer, and apparently by men having some knowledge of geometry; but the Indians know nothing of fortifications as a science.

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* Planters' Banner—Attakapas.

5.—The Basin of the Mississippi.

For the following, we are indebted to Wm. Darby, Esq., in a communication addressed to the Hon. J. C. Calhoun:

The outlines of the Mississippi Basin can only be determined approximately; but, however with adequate accuracy for all general purposes. Commencing on the Gulf of Mexico, and at the mouth of the Atchafalaya, the subjoined tabular view, taken from the best maps, will serve to show the several parts, and perimeter of this great Basin.

	Miles.
Mouth of Atchafalaya, between the sources of streams confluents of the Mississippi Basin, and those of the Gulf of Mexico, to latitude forty degrees in the Rocky Mountains, from whence issue the sources of Platte, Rio Grande, and Colorado rivers,	1,400
Along Rocky Mountains to sources of Marias river,	700
Around northern sources of Missouri river, to the head of Red river branch of Assinniboin,	800
Around the sources of Mississippi proper, to the head of Kankakee branch of Illinois river,	1,100
Between the confluents of the Canadian sea and those of Ohio, to the extreme source of Allegheny river,	500
Along the dividing line of water source between the sources of streams flowing towards the Atlantic ocean and those into Ohio river,	700
Between confluents of Mobile and Tennessee rivers,	300
Between sources discharged into Mississippi and those of Mobile and Pearl rivers, to the mouth of Mississippi river,	400
Outlet of Atchafalay,	200
Entire outline of Mississippi Basin,	6,100

To estimate, to any very near approach to accuracy, the actual area comprised within this great perimeter exceeding six thousand miles, is no easy task; but the following carefully measured sections, geographically and by the river valleys, will exhibit the parts comparatively with each other:

Table of the extent of the Mississippi Basin by lines of latitude.

	Square Miles.
From lat. 45 deg. to 49 deg. N.,	150,000
" 40 deg. to 45 deg. N.,	410,000
" 35 deg. to 40 deg. N.,	520,000
South of latitude 35,	170,000
Entire surface, by Rhumbs, of latitude,	1,250,000

The sollowing, from a careful measurement of its great valleys, is the aggregate area of the Mississippi Basin, as given in the third edition of Darby's Geographical Dictionary:

	Square Miles.
Valley of Ohio,	200,000
Valley of Mississippi proper,	180,000
Valley of Missouri,	500,000
Valley of the Lower Mississippi,	330,000
Aggregate area,	1,210,000

GENERAL LITERATURE.

1.—HISTORICAL ASSOCIATIONS—LOUISIANA SOCIETY.

OUR own experience, live as long as we may, is very little, and if we were confined to it in our actions, the highest and the lowest order of animals would approximate very nearly. No man studies for himself—let him be selfish enough to think so—the truth that he discovers belongs to all the men that live with him, that come after him; it is the basis for other truths to be built upon, or from which they are deduced; and thus the world marches on, each generation wiser than its predecessor, but laughed at by the next.

What is History? It is a record of the past. The record may be perfect or imperfect; it cannot be true or false. If imperfect it may be a record, so far as it goes; if false, it is no record at all. Some have talked about the philosophy of history—Bolingbroke at the head—but this is a different thing from history. If we know all the events that have taken place before us, in their order of antecedence and sequence, we know HISTORY—if we rise higher and regard causation, deduce results and infer general or universal principles, we attain the PHILOSOPHY OF HISTORY.

Attending to this distinction it will be seen that one may be a collector of facts—a historiographer,—a historian, and do essential service to mankind, though he stop here and deduce not a single principle from his facts. Modern ideas of the division of labor demand this. One may do thus much and be incapable of more. In fact, few who are capable of generalizing and philosophising about history, would succeed at all in managing in its details—patiently, minutely, laboriously collecting and recording them. The architect can do nothing without the "hewers of wood and the drawers of water," and the last are as necessary as the first.

Historical societies occupy this subordinate but still important place; by their correspondence, by their committess, by the spirit which they infuse and the interrogations they put to all classes of society; they rescue from oblivion the precious results of the past in all the departments of life. They collect them, they combine them, they preserve them, and hand them down a legacy to succeeding generations, consistant records in the stead of vague traditions.

We duly appreciate these associations, and have labored and will labor not a little again to increase their number in every section of the Republic, appealing gratefully to our libraries for their results.

The following catalogue of those societies in the different States, is correct so far as we have been enabled to gather information. The total number of volumes published we have not learned.

Historical Society of Massachusetts, Boston; Rev. Chas. Sewell, Corresponding Secretary; 8 vols. published records. Historical Society of Rhode Island, Providence; 5 vols. Historical Society of Connecticut, Hartford; 6 vols. Historical Society of New York, city of New York; 7 vols. Historical Society of New Jersey, Newark. Historical Society of Pennsylvania, Phildelphia; 5 vols. Historical Society of Maryland, Baltimore. Historical Society of Virginia, Richmond; See Literary Messenger for March. Historical Society of Georgia, Savannah; 2 vols. Historical Society of Tennessee, Knoxville. Historical Society of Ohio, Columbus, Historical Society of Cincinnati. Historical Society of Vincennes. Historical Society of Indiana, Indianapolis. Historical Society of Missouri, Jefferson City. Historical Society of Illinois, Allton. National Institute, Washington, D. C. American Antiquarian Society, Worcestor, Mass.

The Historical Society of Kentucky and that of Louisiana may be considered as twin sisters, The former has a library of three thousand volumes, forty active and one hundred honorary members, and the following officers: Henry Pirtle, L. L. D., President; Hon. W. F. Bullock, Vice President; T. F. Shaffner, Secretary and Librarian, Louisville; L. S. Goodwin, Treasurer.

In our previous numbers we furnished the particulars of the Louisiana Society, its organization, constitution, querries, officers, etc., etc., to which we have but little space at this time to add.

The Society have had delivered before them this winter, one able address from the Hon. B. F. Porter, of Alabama, and is in expectation of several others from other leading citizens, Many communications have been sent to the Secretary of an interesting nature from different parts of the states of the Union; some donations of volumes which may be referred to at the office of this Review. We most cordially invite such favors.

The Kentucky Legislature has passed lately the following act: "The Secretary of State shall forward to each State Historical Society in the United States, a copy of the acts, journals and public documents published by authority of this General Assembly." Notice of an intended shipment of these books to us, has been given, which should be met on the part of our Legislature by a reciprocal act.

We conclude this rambling paper with a few extracts from letters directed to the Secretary of the Louisiana Historical Society, which cannot but have great interest:

From Professor Stevens of the University of Georgia, and author of a History of that State, now in press, we believe:

"I am rejoiced to learn that you have established an Historical Society in Louisiana, because by making proper efforts, *now*, much, if not all, that relates to Ante Colonial, Territorial and State history can be secured. The early annals of your State are deeply interesting, beginning as they do from the time of De Soto,—running onward with the romantic and daring adventures of La Salle. I hope you will at once, therefore, set about obtaining copies of all yeur public documents both at Seville and in Paris.

"Our State, you are aware, sent an agent to England to obtain Colonial documents, but he only partially succeeded, and the Historical Society is endeavoring by its own funds to supply the deficiency. I am daily expecting six more volumes of transcripts to add to the twenty-three already in my possession, and by which I am endeavoring to prepare (as Histriographer of the State) a new History of Georgia. Having so long felt the need of original and authentic records as the basis of my history, without which, I would not stir one step, I feel the more earnestness in urging upon your Society as one of its earliest, and indeed its principal labors, to procure what may yet be found in Europe relating to the planting and colonization of Louisiana.

"Another matter of importance is the collecting of private papers of distinguished men. These are often very valuable in illustrating the internal history of the people among whom they live. In the casual expression of even business letters, I have sometimes found most important information. Let nothing of this sort be lost, but gather up every fragment of the past; it will be needed in the future; for as modern Rome is built up of the once crumbling ruins of the ancient mistress of the world, so modern history is but the re-constructing of the new memorials of glory, from the fragments of a decaying past.

"Another matter of importance is to obtain biographical sketches of your former and present distinguished men. What an important part, for example, has your venerable President acted in the Judiciary of your State! His reminiscences must be valuable and should be preserved. As division of labor is generally productive of greater results, I would humbly suggest having standing committees on the leading departments of History, viz: Military, civil, judicial, religious; or its French history to it being abandoned to Spain in 1764; its Spanish history until its retrocession to France through Gen. Victor in 1803, and the history of its purchase that year by the United States down to its erection into an independent State in 1812. Either of these plans will embrace its entire history, and neither could be pursued with diligence without signal success."

From Dr. William Gilmore Simms, Historian of South Carolina, Biographer of "Marion," "Smith," etc., etc., etc.:

"To J. D. B. De Bow, Esq.,
Secretary of the Louisiana Historical Society:

"I have but a few days returned from the north and find your kind letter, covering the compliments conveyed me by your Historical Society, awaiting my arrival I seize the first leisure moment to express my acknowledgments, and to congratulate your citizens upon the becoming and honorable beginning they have made in doing justice to your sectional history,—than which I know none of greater, and few of equal interest among the whole of our States. Your Indian History, particularly that of the Natchez and the Chickasah, should demand your attention. You should specially devote your labors to the search after all traditions relating to the supposed transit of the red-men, from the ultima thule of the South-West—beyond which, according to their accounts, all was dark and sunless, and cold with icy barriers. It lies also within your province to institute the closest inquiries into the ancient histories of Mexico, Yucatan and Central America. Your progeny are destined to hold these empires, and you may well begin to look into their inheritance. Reject no facts in such a search however fragmentary. Did you ever see the narrative given by Lionel Wafer in regard to the Indians of Darien—or rather the white people of that region who wore cotton clothing. It is worth your examination. Let me also commend to your close perusal the Sagas of the Northmen as published by Professor Rafu. I have the notion that these Sagas particularly concern us in the South. But I will not distress you with details for which, just at the moment, I have neither the *material* nor the leisure—nor do you need them."

AGESILAUS, THE SPARTAN KING AND CAPTAIN.

In the November number, when discussing the subject of "Coins," we alluded to a circumstance which we saw stated somewhere, that Agesilaus had received three hundred pieces of money from the Persian King as a bribe. That we may not do injustice to the memory of a great man and to the truth of history, though our classical accuracy may suffer, we give the reader a criticism upon the expression, emanating from a learned and decidedly military mind in this State. The writer will pardon us for the liberty taken in publishing it. To correct an error is ever our duty and privilege. Let the Greek Captain have all his dear bought reputation. We envy him none of it.—EDITOR.

To J. B. DE BOW, Esq.,—

Your article on "Coinage" I have read with great attention. One part of a sentence on page 291 I do not approve, "with thirty thousand of these he (Darius) bribed Agesilaus, King of Spartan." Agesilaus being an old friend of mine, and having from a boy always admired his character, his military genius, and his contempt of money, I was struck with the strangeness of the expression. Can it be possible that my old friend, the greatest man of his age, the consummate Captain, the terror and scourge of the Persians, the iron ruler of an iron people, whose currency was iron, should be bribed by pieces of gold! And that I should have read history so carelessly when young as to admire such a man! I referred at once to Plutarch, and read, "At the same time he desired Agesilaus to grant him peace, promising him large sums of money, on condition that he evacuated his dominions. He promised also to restore the great cities in Asia to their liberty on condition that they paid the established tribute, and he hoped (he said) that this condescension would induce Agesilaus to accept peace and return home, the rather because Tisaphernes, who was guilty of the first aggression, had been punished as he deserved." (Quoting Xenophon in the last sentence in a note.) Agesilaus replied, "His country was the sole arbitress of peace. For his own part, he rather chose to enrich his soldiers than himself, and the great honor among the Greeks was to carry home *spoils* and not *presents* from their enemies. Nevertheless, to gratify Tithraustes for having destroyed *Tisaphernes, the common enemy of the Greeks*, he decamped and retired into Phrygia, receiving thirty talents from *that Vice Roy*, to defray the charges of his march." You will observe that the head of Tisaphernes was cut off by order of the Persian King, for violating the treaty with the Greek cities. He (Agesilaus) only quit Lydia to march into Phrygia; the former, ruled, perhaps, by Tithraustes, the latter by Pharanabazus. Persian governors and generals submitting and paying court to a Spartan commander in a plain cloak, causes Plutarch to quote the lines of Timotheus: "Mars is the God, and Greece reveres not gold." Agesilaus was bribed against and Persian Darics distributed among Athenian and Theban orators, compelled his return from the conquest of Persia to the defence of Sparta. Persian coin having the impression of an archer, he said, "He was driven out of Asia by ten thousand of the king's archers." Thus Alexander gained that renown for himself and the Macedonians, which Agesilausand his Lacedemonians could easily have won. The King of Sparta, whom we are now discussing, was remarkable for his plainness of dress, diet, and lodging, and for the simple equipage of his wife, and the furniture of his house; to wit: for his contempt of wealth and luxury. His moderation and disinterestedness were as much esteemed as his wisdom and his gallantry. He may have had two faults: partiality for friends and relations, and love of the excitement of war. I think you have hastily wronged an old friend. Will you repair the error? If not, what is the value of labor and fame, and what is the truth of history?

THE PUBLISHING BUSINESS.

BOOKS FROM THE HOUSE OF HARPER & BROS., N. YORK,—J. B. STEEL, N. ORLEANS.

1.—*The Philosophy of Magic.*—Prodigies and apparent miracles, 2 vols., from the French of Salverte. Nothing can be more interesting and instructive than the developements here made of heathen occult sciences and art,—mysteries of ages are explained upon principles of reason.

2.—*Lives of Balboa, Discoverer of the Pacific; Hernando Cortez;* and *Pizarro.* Biographies which shed great light upon the history of the New World. 1 vol.

3.—*Country Rambles,* by Mrs. E. F. Ellet, of South Carolina; a lady well known in the literary world. This work is particulacly attractive for the young.

4.—*The True Believer,* by Rev. Asa Mahan.—A small volume, but abounding in precious consolations for the thoughtful, the afflicted, or pious mind.

5.—*Scenes in Nature.*—For the young, illustrated with maps and cuts exhibiting the various natural curiosities and physical features of the country.

6.—*Questions in Geography,* Adapted to Morse, by R. G. Parker, for Schools.

7.—*Letters, Conversations and Recollections of S. T. Coleridge.*—This is a second edition of these interesting and instructive letters, etc., collected by one who for many years enjoyed the friendship and inmost confidence of the "most variously gifted and extraordinary man that has appeared in these latter days."

8.—*Cinq-Mars.*—A historical romance, translated from the French of Count de Vigney, by Wm. Hazlitt, Esq. The scene is laid during the reign of Louis XIII.

9.—*Tales of Woman's Trials,* by Mrs. S. C. Hall.—There are sixteen tales in this connection, woman being the subject of them.

10.—*Illustrated Shakspeare.*

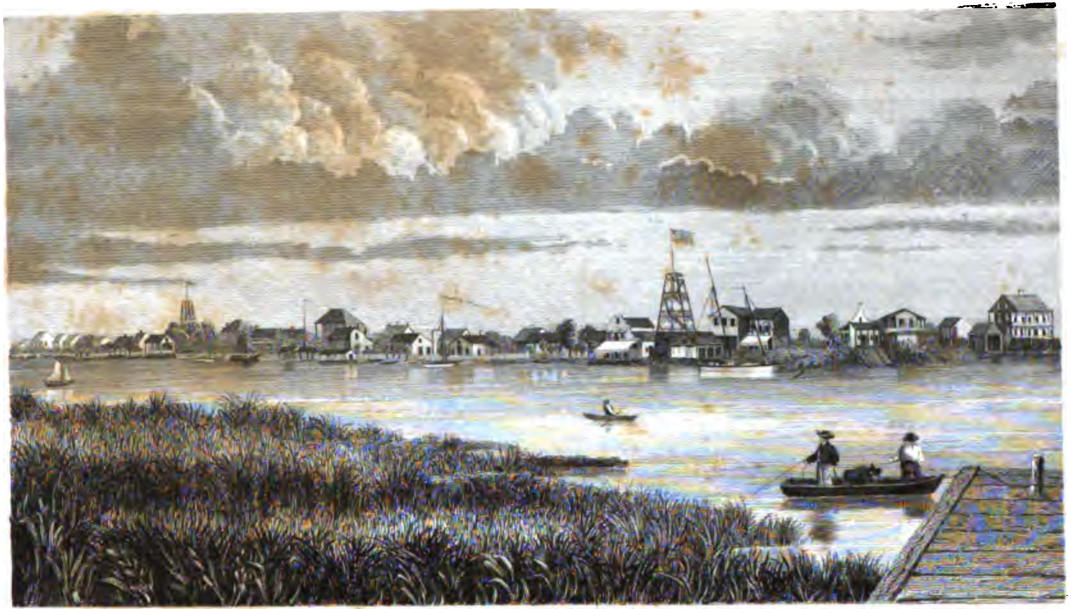
11—*Illustrated History of England.*

12.—*Fortesque,* by J. Sheridan Knowles.

OUR EXCHANGE LIST.—1. *Simmonds Colonial Magazine.*—A work which our merchants should all procure, giving as it does, the best view of British colonial commerce and policy. 2. *Hunt's Merchants Magazine,* with a paper from W. S. Upton, of this city. 3. *Bankers' Magazine,* for March.—In addition to other interesting matter, this number contains some twenty or thirty pages of monographs of different American coins; the work deserves a most extensive support, and we are sure will have it. 4. *Southern Literary Messenger.*—Interesting as usual, with another part of the new history of Virginia. 5. *Southern Quarterly Review.*—Now in new hands; we know the editor, J. Milton Clapp, and have long known him well; the South can produce few better scholars. 6. *Farmers Library.*—Containing a valuable article on Draining, and several admirable engravings 7.—*Law Reporter.* 8. *Silliman's Journal.* 9. *Democratic Review.* 10. *Whig Review.*

BOOKS FROM J. C. MORGAN, NEW ORLEANS.

1. *Notes on the Upper Rio Grande,* by Bryant J. Tilden, Jr., expressly by order of Major General Patterson, with maps and charts. 2. *New York Illustrated Magazine.* 3. *Godey's Ladys Book,* for April. 4. *Graham's American Magazine,* for April. 5. *Westminster Review.* 6. *Blackwood's Magazine.* 7. *Caloric, Origin, Matter, and Law of the Universe,* by Trastour, of New Orleans, and published by T. Rea, with a map. We regret that a want of time has prevented us from looking into the work as yet. We shall do justice to it hereafter.



Eng^d by J T Hammond for De Bow's Commercial Review

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THE

COMMERCIAL REVIEW.

VOLUME III.] MAY, 1847. [NUMBER V.

Art. I.—LIFE INSURANCE AT THE SOUTH.

NOTE BY THE EDITOR:—In the Commercial Review for July, 1846, we published an article upon Marine Insurance, promising to follow it up with several others upon Life Insurance, Fire Insurance, Mutual Insurance, etc. We wrote also to a number of gentlemen in the city at the head of the different offices, for information upon many points, and received in return many useful and interesting particulars, for which we beg leave now to return the most grateful acknowledgements. A press of various engagements has hitherto prevented us from continuing our original design, but this repents us less now, that we have engaged the able pen of Dr. Nott in an important department of it. There remains but little to be added by us.

The importance and the blessings of LIFE INSURANCE need no elaborate exhibition in an age so prudent, thoughtful, and intelligent as this. It may be regarded as one of the great charities of modern times, liable sometimes to be abused, but of most inestimable general results.

In the infancy of the system it had much to struggle against. The civil law maxim that a freeman's life was above all value, *liberum corpus æstimationem non recipit*, met and impeded it at every step. So strong was this prejudice, that the ordinance of Louis XIV forbids such insurance altogether, and was followed by many other ordinances of other countries, on the ground that they were gambling contracts of the most pernicious kind.*

The first insurance company established in France was in 1820, but neither there nor in other parts of the Continent, have such associations met with any considerable success, with perhaps the exception of Germany.

In England the Amicable Society established in 1706, led the way, but was not followed until 1762, when the Equitable Association was chartered. This last insured on an averrage for twenty years 5,500 lives annually, and after meeting all dividends, had a fund in 1840 of £11,000,000 sterling. The number of these incorporations in England now is very considerable.

In the United States the system is of recent date, the first societies having been formed in Massachussetts in 1818, since which in all parts of the Union they have been growing up, and not a little interest is manifested in them everywhere, and in all classes of the community. What is said of the English companies ought to be kept constantly in mind: "The companies used formerly to select and take only lives of health and vigour, but now it is the practice to accept all lives proposed where no positive disease is manifested. So residence in Europe is universally admitted, and the companies are very much exposed to frauds, and the constant diminution of credit and confidence by the insurance of bad lives, and sinking the average duration of lives insured much below the average duration of human life.

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*Kent, whom we are following in the note, refers to the suggestion of Sergeant Marshall, that the prohibition of insurance on lives in France and Italy, proceeds from motives of policy, founded on the startling sense of the great infirmity of their public morals, which would expose to hazard lives so insured.

The following are a few of the legal principles applicable to Life Insurance. There must be an interest in the life insured, as of a creditor. The interest of a woman in the life of her husband would not seem to be sufficient, except by special statute, as in the case of New York, unless she were entitled to an annuity during his life. American policies are restrictive in their nature, that is, they are void if the insured die upon the high seas; or, without consent of the Company, pass beyond the limits of the United States, and the British North American provinces, or south of Virginia and Kentucky, or enter the military or naval service, or die in a duel, by suicide,* or by the hand of justice. In all except the last three of these cases an extra premium will cover the risk.

The protection afforded by Marine and Fire Insurance Companies is now so well established that no prudent man can be found to risk a ship at sea, or a house in town without a policy. We have in the United States not only become familiar with the doctrine of probabilities, on which such companies are organized, but our experience has been sufficiently long and large to establish fully their safety and utility. *Life Insurance*, on the contrary, with us is still in its infancy, and its importance not yet fully realized. Marine and fire insurance have done much towards giving a firm and steady march to commerce and all those transactions which bring prosperity to individuals and nations, and Life Insurance is but another strong link in the great chain.

There is no certainty in human events. The calculations of the merchant—the harvest of the planter—the fate of a ship at sea—the very existence of the world for another day, are all but probabilities, and we should not forget that nothing is more uncertain than human existence. "In life we are in the midst of death," and a day or an hour may paralyze the hand which feeds the helpless.

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* It is impossible to forget the powerful picture drawn by Warren of the last hours of Gammon. He who in life had deceived every one, baffled even in death the keen scrutiny of the insurers. Whether this deception be possible, we leave to the author of the *Diary of a Physician*. We cannot suppose that any of the ten thousand readers of a master production would, particularly object to the insertion here of its best passage.

"Dear Sir:—I have finally determined to make every sacrifice in order to extricate myself from my present embarrassments. You will therefore, as soon as you get this, please to sell out all my ——" here he laid down his pen; and Mrs. Brown presently announcing that everything was ready in his dressing room, he thanked her, and proceeded to shave and dress. He was not more than a quarter of an hour over his toilet. He had put on his usual evening dress, his blue body-coat, black trowsers, a plain shirt, and black stock, and a white waiscoat—scarcely whiter, however, than the face of him that wore it.

In a country like ours, where with untrammelled energies and eager grasp, we are pressing along the road which leads to fortune and greatness, we unfortunately sometimes travel too fast, and great commercial convulsions are inevitable consequences, which bring ruin on individuals the most prudent and cautious. Bankruptcy comes, and often under circumstances which leave little hope for the future. Take a person so situated, or one who is living on a small income, with the uncertainty of life hanging over him, and how much more cheerfully would he toil on, could he say, come what may my life is insured, and my wife and children are sure of something to save them from want.

The proportion of those in any community who have capital to invest, or who are able to buy an annuity is very small, but the proportion is large of those who could lay aside a few hundred dollars annually for life insurance. The small savings of an income might thus be laid out in a good mutual insurance company, where it would not only be safely, but profitably invested.

"I am going for the coach now, sir," said Mrs. Brown, knocking at the door.

"If you please," he replied briskly and cheerfully—and the instant that he had heard her close the outer door after her, he opened the secret spring drawer in his desk, and calmly took out a very small glass phial, with a glass stopper, over which was tied some bladder. His face was ghastly pale; his knees trembled; his hands were cold and damp as those of the dead. He took a strong peppermint lozenge from the mantlepiece, and chewed it, while he removed the stopper from the bottle, which contained about half a drachm of the most subtle and potent poison which has been discovered by man—one extinguishing life almost instantaneously, and leaving no trace of its presence except a slight odour, which he had taken the precaution of masking and overpowering with that of the peppermint. He returned to get his hat which was in his dressing room; he put it on—and in glancing at the glass, scarcely recognized the ghastly image it reflected. His object was to complete the deception he intended practising on the Insurance Company with whom he had effected a policy on his life for £2,000, and also to deceive every body into the notion of his having died suddenly, but naturally. Having stirred up the large red fire, and made a kind of hollow in it, he took out the stopper and dropped it with the bladder into the fire; took his pen in his right hand, with a fresh dip of ink in it; kneeled down with his feet on the fender; uttered aloud the word "*Emma*;" poured the whole of the deadly contents into his mouth, and succeeded in dropping the phial into the very heart of the fire, and the next instant dropped down on the hearth-rug, oblivious, insensible—*dead*. However, it might be that the instant after he had done this direful deed, he would have GIVEN THE WHOLE UNIVERSE, had it been his, to have undone what he had done—he had succeeded in effecting his object.

Poor Mrs. Brown's horror on discovering her master stretched senseless on the floor may be imagined. Medical assistance was called in, "but the vital spark had fled." It was clearly either appoplexy, said the medical man, or an organic disease of the heart. Of this opinion were the coroner and his jury, without hesitation. He had evidently been seized while in the very act of writing to some broker. Gammon had no more stock of any sort, for all he had wrote that letter, than the cat which had witnessed his death. Mr. Hartley came, and produced the letter he had received, and spoke of the disappointment they had all felt on account of his non-arrival; the other letters, the appointments which he had made for the morrow; all these things were decisive; it was really scarcely a case requiring an inquest; but as they had been called, they returned a verdict of "Died by the visitation of God." He was buried a few days afterwards in the adjoining church-yard, (St. Andrew's,) where he lies mouldering away quietly enough, certainly; but as to anything further, let us not presume to speculate."

But while we are thus setting forth the advantages of life insurance, and placing it on the same platform with marine and fire insurance, we must not omit to warn against its dangers and deceptions. The great mass of those in the United States who insure their lives, (and thus become co-partners in the concern,) are utterly ignorant of the business they have embarked in; they know nothing of the history and principles of life insurance, the probabilities of life, the chances of profit or loss, responsibility often incurred, &c. They are attracted and guided solely by the one-sided representations of interested parties.

A new Mutual Insurance Company springs into existence, got up probably by a few men without capital in the hope of making a good speculation. Pamphlets are printed and circulated, newspaper puffs are put forth in every direction, showing the immense and increasing profits of the second, third, and fourth years, all of which is very plausible and imposing. The statements may be false, or the statements may be true, and the impostors may be as badly deceived as the public, for they are themselves too ignorant to know the dangers of the machine which they have put in motion. A company may work admirably for a few years, and eventually wind up disastrously. Several hundred, or several thousand badly selected lives may go on smoothly for several years; but many of these being insured for life, if they do not, (and they cannot if badly selected,) reach *the average duration of life*, on which life insurance is based, a heavy loss must follow.

Life insurance in Europe, like marine and fire insurance, is based on long experience and ample statistics. Tables of mortality there, have been kept for a long series of years, and the laws are fixed. In our country vital statistics are very imperfect, and our climate, habits, diseases, &c., are so different that the same rules are wholly inapplicable. Statistics must be accumulated through some three score and ten years before the laws of mortality here can be fairly made out, and our way clearly seen.

It is to be feared that Life Insurance Companies now, like banks a few years ago, are becoming affairs of speculation, and that some of them will terminate not less unfortunately. There is an over anxiety for patronage, and a carelessness in selecting risks, which is often apparent, and which should cause the prudent to pause and reflect.

The great success of the *Equitable* and some others of the long established English Companies, is held up as a proof of the advantages of mutual life insurance; but the story is but half told. Mr. Morgan, than whom there is no higher authority, has shown that this great prosperity is attributable to circumstances which cannot occur again. The premiums charged some years ago by the Equitable, were nearly double what they now are; and besides this, during the first twenty-five years of the Company's existence, half the insurances were abandoned by the insurers, in many cases after they had paid for a considerable number of years. Yet we see trumpeted forth the success of the Equitable in order to tempt the unsuspecting.

But let it be steadily borne in mind, that not the chance of large profits, but *security* of the investment, is the first and paramount consideration. When an individual at the end of the year, pays to an insurance company the small savings of his hard and anxious toil, the question to be asked is not, is there a hope that I am to reap compound interest? but, are my wife and children or my creditors *sure* of the amount I have bargained for.

We have no space here for following out this point as well as many others, and our only hope is that we may do something towards stimulating investigation, and inducing persons to inquire into the condition and conduct of companies before trusting them too far. In order to give more weight to what I have said, I will here introduce a quotation or two from McCulloch's Commercial Dictionary, an authority which will not be called in question. If what he says of English companies be true, with how much more force will it apply to those of our country?

> "Security, in Life Insurance, is the paramount consideration. It is, we believe, admitted on all hands, that the premiums were at one time too high; but we doubt whether the tendency at present be not to sink them too low. A great relaxation, has taken place even in the most respectable offices, as to the selection of lives. And the advertisements daily appearing in the newspapers, and the practices known to be resorted to in different quarters to procure business, ought to make every prudent individual consider well what he is about before he decides upon the office with which he is to insure. Attractive statements, unless they emanate from individuals of unquestionable character and science, ought not to go for much. Life insurance is one of the most deceptive businesses; and offices may for a long time have all the appearance of prosperity, which are, notwithstanding, established on a very insecure foundation. If a man insure a house or a ship with a society or an individual of whose credit he gets doubtful, he will forthwith insure some where else. But life insurance is quite a different affair. The bargain is one that is not to be finally concluded for perhaps fifty years, and any inability on the part of an establishment in extensive business to make good its engagements, would be productive of a degree of misery not easy to be imagined."

Life Insurance Companies are divided into three classes. First, Joint Stock, who pay fixed sums upon the death of the individuals insuring with them, the profits going exclusively to the proprietors. Second, Mutual Insurance Companies, in which there is no proprietory body distinct from the insured, who share amongst themselves the whole of the profits of the concern. Third, Mixed Companies, combining the two former plans in various degrees.

We will not detain the reader by comments on the comparative merits of these, but will content ourselves with another extract from McCulloch, which contains some excellent hints:

> "The advantage to a person insuring in any one office as compared with another, must plainly depend on a comparison between the premiums demanded, the conditions of the policy, and above all, the *security* which it holds out. It may appear on a superficial view, as if the Mutual Insurance Companies would be, in all respects, the most eligible to deal with, inasmuch as they have no proprietors to draw away any share of the profits from the insured. It is doubtful, however, whether this advantage be not more than balanced by disadvantages incident to such establishments. Every one being a partner in the concern, has not only his own life insured, but is part insurer of the lives of all the other members; and may be, in this capacity, should the affairs of the society get into disorder, incur some very serious responsibilities. The management, too, of such societies, is very apt to get into the hands of a junto, and to be conducted without the greater number of those interested knowing any thing of the matter. There is also considerable difficulty in constituting such societies, in distinguishing clearly between the rights of old and new members; for supposing a society to be prosperous, it is but reasonable that those who have belonged to it while it has accumulated a large fund, should object to new entrants participating in this advantage. But the affairs of a society conducted in this way, or making distinctions in the rights of its members during a long series of years, could hardly fail of becoming at last exceedingly complicated, nor is it, indeed, at all improbable that the conflicting claims of the parties in some of the societies of this sort now in existence, may ultimately have to be adjusted in the courts of law, or by an Act of the Legislature."

All the Life Insurance Companies of the United States are north of the Potomac, as are nearly all the writers on vital statistics, and we are well satisfied that a want of local information and personal observation have led them into many grave errors respecting our condition at the south. From a half to one per cent. more is demanded on southern than on northern risks, and we propose now to inquire if there be sufficient reason, under all circumstances, for this distinction?

As our subject opens a wide field, which cannot be explored in the limits of a periodical, we shall confine ourselves to a brief inquiry into the health and longevity of our *southern seaports*, Charleston, Mobile, New Orleans, etc.

We have already said that vital statistics in the United States are yet in their infancy, and we think a capital error has been committed in basing the operations of Insurance Companies in this country, particularly the southwest, upon the experience of those of Europe. In Belgium, France, and England, for example, and we may add New England, population is dense, the means of subsistence and comforts of life difficult of attainment, marriages comparatively few, and the population must necessarily present a very different picture from that of our southwestern States. *There*, comparatively few children are born, and the average age of the living population must be higher than *here*. In

Europe, the old maids and bachelors serve to swell the average age of the population, while in the southwest, by marrying and propagating they would reduce it.

Suppose the whole population of Connecticut and Tennessee were struck dead at the same moment, the average age of all the dead in Connecticut might be forty, and that of Tennessee but twenty. But this would not prove that the longevity of the one is greater than the other, yet the *fact* is so construed and gravely set forth by statistical writers at the north.

Whether a population be a young or an old one, it should be remembered that disease and death are every where doing their work, and that the heaviest mortality every where is below the age of five years. So it is evident that the average duration of life, taken alone, proves nothing,—the lowest average may be in the healthiest country.

Our northern friends, though fully satisfied of the greater mortality in all the ages below three score and ten throughout the southwest, both town and country, than in New England, yet are obliged to admit the greater frequency here of instances of extreme longevity. This fact has much puzzled writers on vital statistics, but we think a satisfactory explanation may be given. May it not be accounted for by the well known fact that in very old people, in whom the *vis vitæ* becomes much exhausted, there remains little power to resist extreme cold. The difference between town and country in the south is not great, but at the north the centenarians double those of the country, because the inhabitants of cities are not so much exposed to extreme cold as those of the country; they are protected from the winds by the multitude of houses, and their dwellings are better built for excluding cold.

We will here introduce a table from Quetelet's "Recherches sur la Reproduction et la Mortalité de l'homme aux différens ages, et sur la Population de la Belgique," which he gives "in order that we may ascertain at what ages extreme heat or extreme cold is most to be feared. We add also a table from Mr. Shattuck's "Report on the Census of Boston, in which evidence is given of the influence of cold over old people.

	Deaths during the Months of		Deaths in July for 100 Deaths in Jan.	Deaths in Boston over 60.	
	Jan'ry.	*July.*			
Still Born,	269	215	0,80	January,	1,09 per cent.
First month after birth,	3,321	1,719	0,52	February,	1,16
4 to 6 years,	878	600	0,59	March,	1,02
8 to 12 "	616	447	0,73	April,	1,02
12 to 16 "	409	420	1,05	May,	,80
16 to 20 "	502	545	1,09	June,	,69
20 to 25 "	361	796	0,93	July,	,77
25 to 30 "	793	724	0,92	August,	,97
40 to 45 "	818	613	0,75	September,	,75
62 to 65 "	968	525	0,54	October,	,94
79 to 81 "	658	332	0,51	November,	1,04
90 and upwards,	252	99	0,39	December,	1,05

This table certainly affords strong evidence of the unfavorable influence of cold on old age. The climate of our northern cities is remarkable not only for extreme cold, but extreme heat; the range of the thermometer in many of the northern portions of the United States is double what it is along the Gulf, where we are not only exempt from extreme cold, but extreme heat. As might reasonably be expected, the climate of our northern cities presses hard upon the aged, as we *know* it does upon childhood.

There is still another reason for the great proportion of centenarians seen in Charleston and New Orleans, which we think will be clearly established before we close. Besides being removed from the fatal influence of extreme cold, the old inhabitants who are thoroughly acclimated, are *exempt from the summer diseases of the climate, and have few of winter to contend with.* Life ceases because the machine is exhausted by the wear and tear of time.

It has been contended by most writers on vital statistics, that a large proportion of centenarians, so far from proving high longevity of a population, is evidence of the reverse; they are said to exist in the greatest proportion in the most sickly places.

This may be strictly true, but we are not prepared to accept the proposition as demonstrated, particularly when laid down as broadly as it usually is. In temperate malarious districts, where the general mortality is very great, it is possible some might not be susceptible to the influence of this atmospheric poison, and amongst the few survivors, a few centenarians would form a large relative proportion; but all this does not prove that every country is a sickly one, where many live to a hundred years. We are satisfied that there are many portions of the south which would show as low mortality for all ages below ninety, and less above that age, than any portion of the north, if the population could be confined to those localities for one hundred years. Charleston and New Orleans are often cited as instances of sickly places abounding in centenarians, but we shall give good reasons further on for the opinion, that these cities, to their native or acclimated inhabitants, are, perhaps, the healthiest in the United States.

But leaving out of the question cities, which we shall show have climates and diseases peculiar to themselves, and wholly different from the country which surround them, the climate of the gulf coast, including Florida, Alabama, Mississippi and Lousiana, is very imperfectly understood by persons at a distance. Although much has been written concerning the relation which exists between topography of southern countries and miasmatic fevers, all the laws and fine spun theories of book makers are put to flight by the facts every day witnessed in this region. Heat, moisture, animal and vegetable matter are said to be the elements which produce the diseases of the south, and yet the testimony, in proof of the health of the banks of the lower portion of the Mississippi river, is too strong to be doubted,—not only the river itself but the numerous bayous which meander through Louisiana. Here is a perfectly flat alluvial country covering several hundred miles, interspersed with interminable lakes, lagunes and jungles, and still we are informed by Dr. Cartwright, one of the most acute observers of the day, that this country is exempt from miasmatic disorders, and is extremely healthy. His assertion has been confirmed to me by hundreds of witnesses, and we know from our own observation, that the population present a robust and healthy appearance. Why this is so, it is impossible to say; a country of this character on the Atlantic coast, would be almost uninhabitable by white population. The planters around Charleston desert many places of more favorable aspect, in summer, and retreat to the city for health. The coast of Mississippi, Alabama and Florida, presents in many respects a different topography, and yet is considered a healthy country. In point of temperature this is one of the most agreeable climates in the United States, and the coast is dotted along the whole gulf with delightful watering places and summer residences, to which the population resort for health and pleasure; and yet when you build a town, even on a sandy desert, as at Pensacola, yellow fever springs up and attacks strangers, while the natives are exempt. Whether it be an endemial position of bilious fever or not, yellow fever comes with concentrated population, usurps the field and reigns with undivided sway.

Though many other parts of the south and west present much interest, the main object of our present investigation is the climate of our southern seaports, and on the single point of *acclimation* turns the value of all our conclusions. On this point our northern writers are little informed, and although we can here but glance at it, we can easily, if need be, bring forward abundant evidence to satisfy any candid man of the truth of the positions we take.

It is now generally admitted that yellow and bilious fevers are distinct diseases, differing in their causes and nature. No one pretends that an attack of intermittent or bilious fever affords protection against yellow fever, or that yellow fever will protect against the former. No one denies that an individual may be attacked an indefinite number of times by intermittents or remittents, or that one attack even pre-disposes to others, and yet it is agreed on all hands that one attack of yellow fever affords almost perfect immunity against a second, provided the subject confines himself to the yellow fever region, viz. the atlantic and gulf coast from Charleston southward. In truth, we may safely challenge a denial of the fact, that *one attack of yellow fever, or a long residence in a yellow fever city, affords a better protection against this disease, than does vaccination against small pox.* The citizens of Charleston, Savannah, Pensacola, Mobile, New Orleans, West India towns, etc., may exchange one city for another with impunity.

On the subject of acclimation we are fully borne out by Professors Harrison, of New Orleans, and Dickson, of Charleston,—two of the best authorities we have. The facts are so well known as to need no argument amongst medical observers.

Yellow fever is generated in crowded populations, perhaps exclusively; while bilious fever on the contrary, is the indigenious product of southern soils. In fact, there would seem to be something antagonistic in the causes of these diseases. Generally, along the southern seaboard, when the forest is first levelled, and a town commenced, intermittents and remittents spring up, and in some places of a malignant and fatal type. As the population increases the town spreads, and draining and paving are introduced, yellow fever, the mighty monarch of the south, who scorns the rude field and forest, plants his sceptre in the centre, and drives all other fevers to the outskirts. As the town grows, the domain of yellow fever spreads and the others recede. There is a middle ground where the two meet and struggle for supremacy. Here we see all imaginable grades, from the simple intermittent up to the most malignant yellow fever; but wherever they come in contact, intermittents and remittents are compelled to wear the livery of the master spirit. Here we see the groundwork of the erroneous conclusions of those authors who contend for the identity of intermittent, remittent and yellow fevers.

Though occasional cases of severe bilious fevers may occur in southern seaports, most of which are contracted out of town, *epidemics* of bilious or congestive fevers are wholly unknown. The highest number of deaths in Charleston during any one year for the last eighteen, from *all* fevers except yellow fever, is eighty-one, and the aggregate for this whole period is but six hundred and fifty-six,—a result which will much astonish those writers who are not familiar with southern statistics. These facts illustrate very clearly the peculiarity of *city climates* and diseases. If the population of Charleston, for example, which has varied little from thirty thousand for the last eighteen years, had been living in the country *around* the city, or scattered through the bilious fever region of the south, no one can estimate within one thousand of the number of deaths which would have occurred during this long series of years.

The statistics of Charleston show a lower mortality amongst its *acclimated population* than any northern city, and the physicians of Mobile and New Orleans will give the same testimony in favor of these cities. Mobile and New Orleans, too, possess the great advantage over the former city, of being surrounded by healthy country. When these cities escape yellow fever, which attacks the unacclimated alone, they enjoy an exemption from all disease which is almost incredible.

Charleston is the only southern city in which bills of mortality have been faithfully kept for a sufficient length of time. We shall now proceed to give more in detail the statistics of this city and the deductions made from them. The bills of mortality of Charleston may be fully relied on, and are peculiarly valuable from the fact that the population has been little disturbed by immigration and emigration, and has not fluctuated much in amount.

The population of Charleston was as follows:

	White.	*Colored.*	*Total.*
1830,	12,928	17,361	30,289
1840,	13,030	16,231	29,261
	102 increase.	1,130 decrease.	1,028 decrease.

This table shows that the whole population in the period of ten years decreased 1,028, while the white population alone gained 102. We have good reason to believe from these and other facts, that from 1828 to 1846, the eighteen years embraced by our tables, the fluctuation was of very limited extent.

We have before us a "*Report of the Interments in the city of Charleston, with the name and number of each disease from* 1828 *to* 1846, (*eighteen years,*) *the prevailing diseases in each month, etc., thermometrical range, etc., from* 1834 *to* 1846, (*twelve years.*) By JOHN L. DAWSON, M. D., City Register.

Below will be found an abstract of this Report, which we have made out with much care from the crude mass of material. This abstract contains a large portion of the *data* from which our conclusions are drawn, and will enable the reader to judge of their legitimacy.

The Report and abstract embrace all the deaths and causes of death in the city of Charleston for the eighteen years,—it is important to bear in mind, that we have, in the abstract, for the convenience of comparing different epochs, divided the whole term into three periods of six years each. We have also, for the purpose of facilitating comparison with other places, arranged our table on the plan of the distinguished statistician, Mr. Farr, of London,—the same plan has also been adopted by Mr. Shattuck in his Report on the census of Boston, for 1845, a volume replete with instruction.

The causes of death as laid down in our table are divided into :— First. Zimotic diseases. Second. Sporadic diseases. Third. Old age and external causes, such as violence, poisoning, drowning, etc.

We shall here, as on other occasions, extract freely from our article in the Charleston Medical Journal, as it contains statistics which are new to the readers of the Commercial Review, and necessary to the illustration of our subject.

Zimotic is a term used by Mr. Farr to designate all epidemic, endemic and contagious diseases. It is the property of Zimotic diseases to prevail more at one season than at another, or more in one locality than another, and to become epidemic, endemic, or contagious, under certain circumstances. This class, as it will be seen, includes all fevers arising from morbid poisons, as intermittents, remittents, yellow and typhus fevers; also small-pox, measles, scarlatina, influenza, etc., and the greater or less number of deaths from this class has been assumed as the best test of the salubrity of a climate.

Sporadic Diseases embrace all those which do not belong to the above class, as our table will show.

Old age and external causes cannot be called diseases, and should, therefore, particularly the latter, be separated from the other classes in estimating the influence of climate on health.

The following table, as we have stated, extends over eighteen years, which are divided into three periods of six years each. The aggregate number of deaths for each period is given from all causes, the number from each specified cause, and the per centage which each one bears to the whole.

TABLE I.

Abstract of the Causes of Death in Charleston, from 1828 to 1845.

	No of Deaths in the periods,			In each 100 there were in		
CAUSES OF DEATH.	1828 to 1833	1834 to 1839	1840 to 1845	1828 to 1833	1834 to 1839	1840 to 1845
All Causes,	4143	5229	3583			
Specified Causes,	3968	5080	3503			
1. Zimotic Diseases,	952	1900	765	23,99	37,40	21,83
Sporadic Diseases.						
2. Of Uncertain or General Seat,	506	548	426	12,75	10,78	12,16
3. Of the Nervous System,	593	605	606	14,94	11,90	17,29
4. Of the Organs of Respiration,	910	878	813	22,93	17,28	23,20
5. Organs of Circulation,	16	27	33	0,40	0,53	0,94
6. Organs of Digestion,	417	549	399	10,50	10,80	11,39
7. Urinary Organs,	6	2	5	0,15	0,05	0,14
8. Organs of Generation,	35	51	48	0,88	1,00	1,37
9. Organs of Locomotion,	21	14	14	0,56	0,27	0,39
10. Integumentary System,	7	9	7	0,17	0,17	0,19
11. Old Age,	311	299	226	7,83	5,88	6,45
12. Deaths from External causes,	194	198	161	4,88	3,89	4,59

	No of Deaths in the periods,			In each 100 there were in		
CAUSES OF DEATH.	1828 to 1833	1834 to 1839	1840 to 1845	1828 to 1833	1834 to 1839	1840 to 1845
Class First.						
Cholera,	14	19	4	,35	0,37	0,11
Cholera Infantum,	5	63	71	,12	1,23	2,02
Cholera, Asiatic,	0	392	0	,00	7,70	,00
Croup,	43	39	43	1,08	,76	1,22
Diarrhœa,	104	66	25	2,62	1,29	,71
Dysentery,	45	77	51	2,62	1,29	,71
Bowel Complaint,	83	23	5	2,09	,45	,14
Erysipelas,	4	2	2	,10	,03	,05
Fever,	43	110	44	1,08	2,16	1,23
" Inflammatory,	4	8	2	,10	,15	,05
" Intermittent,	3	5	24	,07	,09	,68
" Remittent,	93	144	50	2,34	2,83	1,42
" *Country*,	78	35	11	1,96	,68	,31
" Yellow,	58	562	26	1,46	11,06	,74
" Congestive,	0	4	12	,00	,07	,34
" Typhus,	49	79	93	1,23	1,55	2,65
Hooping Cough,	106	70	61	2,66	1,37	1,74
Influenza,	11	18	10	,27	,35	,28
Measles,	26	43	31	,65	,84	,88
Scarlatina and Sore Throat,	78	127	127	1,96	2,50	3,62
Small Pox,	63	0	53	1,58	,00	1,51
Syphilis,	1	0	2	,02	,00	,05
Thrush,	23	13	18	0,57	,25	,51
Parotitis,	0	1	0	,00	,01	,00
Dengue,	18	0	0	,45	,00	,00
Class Second.						
Abscess,	14	16	13	,85	,35	,37
Atrophy,	1	1	14	,02	,01	,39
Cancer,	26	15	30	,65	,29	,85
Debility,	128	125	70	3,22	2,45	1,90
Dropsy,	285	328	243	7,18	6,45	6,93
Gout,	4	1	1	,10	,01	,02
Hæmorrhage,	5	14	10	,12	,27	,28
Inflammation,	5	5	0	,12	,09	,00
Mortification,	10	4	3	,25	,07	,08
Scrofula,	12	20	12	,30	,39	,34
Tumor,	4	3	0	,10	,05	,00
Marasmus,	11	15	27	,27	,29	,77
Spine Diseases,	1	1	3	,02	,01	,08
Class Third.						
Apoplexy,	98	111	113	2,46	2,18	3,22
Cephalitis,	31	57	38	,78	1,12	1,08
Convulsions,	189	154	138	4,76	3,03	3,93
Delirium Tremens,	5	27	3	,12	,53	,08
Coup de Soleil,	3	1	1	,07	,01	,02
Epilepsy,	51	27	13	1,27	,53	,37
Hydrocephalus,	17	29	17	,42	,57	,48
Insanity,	17	16	18	,42	,35	,51
Paralysis,	57	60	54	1,43	1,18	1,54
Tetanus,	7	18	29	,17	,35	,82
Trismus Nascentium,	90	83	160	2,31	1,63	4,56
Cramp,	8	0	0	,20	,00	,00
Nervous Affections,	5	5	0	,12	,09	,00
Brain, Diseases of	15	17	22	,37	,33	,62
Class Fourth.						
Asthma,	28	24	31	,70	,47	,88
Consumption,	665	565	561	16,75	11,12	16,01
Hydrothorax,	70	88	70	1,76	1,73	1,99

CAUSES OF DEATH.	No of Deaths in the periods,			In each 100 there were in		
	1828 to 1833	1834 to 1839	1840 to 1845	1828 to 1833	1834 to 1839	1840 to 1845
Laryngitis,	2	0	2	,05	,00	,05
Bronchitis,	3	9	8	,07	,17	,22
Pleurisy,	33	23	17	,83	,45	,48
Pneumonia,	5	5	17	,12	,09	,48
Inflammation of Lungs,	12	29	21	,30	,57	,59
Hæmmorhage of Lungs,	1	3	0	,02	,05	,00
Lungs, Diseases of	10	6	8	,25	,12	,22
Catarrhal Fever and Catarrh,	81	126	78	2,04	2,48	2,22
CLASS FIFTH.						
Aneurism,	1	4	3	,02	,07	,08
Heart, Diseases of	15	23	30	,37	,45	,85
CLASS SIXTH.						
Colic,	32	28	14	,80	,55	,39
Dyspepsia,	3	3	5	,07	,05	,14
Enteritis,	60	99	90	1,51	1,94	2,56
Gastritis,						
Inflammation of Bowels,						
Hernia,	4	3	7	,10	,05	,09
Intussusceptions	1	1	0	,02	,02	,00
Peritonitis,	1	8	2	,02	,10	,05
Teething,	160	253	181	4,03	4,97	5,16
Worms and Worm Fever,	81	76	40	2,04	1,49	1,13
Liver, Diseases of	2	1	0	,05	,01	,00
Jaundice,	12	11	11	,30	,21	,31
Organs, Diseases of	2	4	10	,05	,07	,28
CLASS SEVENTH.						
Diabetes,	00	00	00	,00	,00	,00
Cystitis,	00	1	2	,00	,01	,05
Gravel,	5	1	2	,12	,01	,05
Nephritis,	1	0	1	,02	,00	,02
CLASS EIGHTH.						
Childbirth,	29	38	34			
Puerperal Fever,	2	5	2	,05	,09	,05
Organs, Diseases of	4	8	12	,10	,10	,34
CLASS NINTH.						
Rheumatism,	21	11	14	,52	,21	,39
Joints, diseases of	0	3	0	,00	,05	,00
CLASS TENTH.						
Fistula,	0	1	0	,00	,01	,00
Ulcer,	3	3	2	,07	,05	,05
Skin, Diseases of	4	5	5	,10	,09	,14
CLASS ELEVENTH.						
Old Age,	311	299	226	7,83	5,88	6,45
CLASS TWELFTH.						
Burns and Scalds,	8	3	5			
Casualties,	40	55	48			
Drinking Cold Water,	0	0	0			
Intemperance,	93	80	45			
Drowned,	26	36	43			
Executed,	0	1	2			
Fractures,	2	5	1			
Cold, Effects of	13	7	1			
Hydrophobia,	2	0	1			
Murdered,	0	0	1			
Poisoned,	2	1	2			
Suffocated,	0	4	2			
Suicide,	8	6	10			
CLASS THIRTEENTH.						
Causes not Specified,	175	149	90			

The reader cannot fail to be struck, on the first glance at this table, by the great disparity exhibited in the gross mortality of the three periods; and the fact is equally prominent that this disparity is attributable to the increase or decrease of *Zimotic* diseases. The mortality for each of the periods was as follows: 4143—5229—3583. From the *Zimotic* class the deaths were in each period, 952—1900—765, or for each 100 a per centage of 23,99—37,40—21,83. Here is strong evidence of the influence of endemics and epidemics over mortality; and the general fact has been taken as sufficient proof of the insalubrity of Charleston and other cities similarly situated as to climate. The average mortality for a series of years, has been estimated by Dr. Dunglison in his work on "*Human Health*," at one in thirty-six, which places that city below, and very far below, most of the northern cities of the United States.

The important question now comes up, viz.: who are they that die from these Zimotic diseases? Are they acclimated citizens of Charleston or are they not? And we beg the reader to bear in mind the general remarks which have been made on the subject of *acclimation.* The deaths in the second period of our table exceeded those of the third by 1135, or 148 per cent. By turning to class 1st in Table I., it will be seen that the deaths from yellow fever in three periods were 58—562—26, a very striking contrast certainly. Look at the heads fever, bilious fever, etc., and we find a greater mortality from these causes also in the second, than in either of the other periods; many of which deaths no doubt, were erroneonsly excluded from the head yellow fever.

The Table II., which we give below, besides some other interesting facts, reveals the following one, which will go far towards answering the question who are they that die from the endemic diseases of the climate? viz.: the deaths for the "*not natives*" were in each of the three periods, 764—1418—659, showing that the mortality amongst this class of population rises and falls as these causes act with greater or less force. If the table be taken in detail, year by year, this law is seen to be invariable. In the great epidemic of 1838, for example, there were 482 deaths amongst the *non-natives*, and so on with the other years. A portion of the deaths from yellow fever are amongst native children of the city, who, as we have stated, though far less liable to this disease than foreigners, are not considered as fully acclimated. It should be remembered also, that 392 of the deaths, or 8 per cent. of the second period, were from Asiatic cholera, which should be excluded from the calculation in estimating the influence of climate on the acclimated.

TABLE II.

Showing the gross Mortality for each year, and the ratio of the Whites, Blacks, Natives, Non-natives, Sexes, etc.

	Whites. Male.	Whites. Fem's.	Colored. Male.	Colored. Fem's.	Total Whites	Total Blacks.	Grand Total.	Not Native.	Native.	Deaths of Whites.	Deaths of Blacks.	
1822	284	142	253	246	426	499	925	—	—	— —	— —	
1823	217	132	213	250	349	463	812	185	629	— —	— —	
1824	434	198	222	205	632	427	1059	382	677	— —	— —	236 deaths fm. yellow fever.
1825	228	125	253	234	353	487	840	165	675	— —	— —	
1826	203	108	217	236	311	453	764	—	—	— —	— —	
1827	258	124	216	205	382	421	803	—	—	— —	— —	63 ” ” ”
1828	232	126	222	213	358	435	793	168	625	One in 36,14	One in 39,91	26 ” ” ”
1829	183	124	205	250	307	455	762	102	660	” 42,28	” 38,15	
1830	209	120	199	235	329	434	763	143	620	” 39,45	” 40,00	32 ” ” ”
1831	164	114	218	237	278	455	733	150	583	” 46,69	” 37,93	
1832	142	108	161	149	250	310	560	96	464	” 51,91	” 55,35	
1833	145	91	136	170	236	306	542	105	437	” 55,00	” 55,75	
1834	192	116	158	226	308	384	692	166	526	” 42,14	” 44,16	49 ” ” ”
1835	189	112	176	187	301	363	664	181	483	” 43,12	” 46,44	26 ” ” ”
1836	196	123	443	410	319	853	1172	181	991	” 40,68	” 19,64	392 ” *Asiatic Chol.*
1837	172	102	180	176	274	356	630	144	486	” 47,37	” 46,79	
1838	551	158	277	223	709	500	1209	482	727	” 18,30	” 33,00	354 ” yellow fever.
1839	307	127	195	227	434	422	1856	264	592	” 29,93	” 39,00	134 ” ” ”
1840	184	73	177	171	257	348	605	179	426	” 50,70	” 46,64	23 ” ” ”
1841	120	80	187	173	200	360	560	94	456	” 65,15	” 44,80	
1842	171	88	165	170	259	335	594	113	481	” 50,30	” 47,85	
1843	131	83	237	246	214	483	697	89	608	” 60,88	” 32,98	2 ” ” ”
1844	109	79	173	192	188	365	553	108	445	” 69,30	” 43,36	1 ” ” ”
1845	119	127	153	171	246	324	570	76	494	” 52,96	” 48,54	

Many of the causes of death, which by the too arbitrary arrangement of Mr. Farr, are thrown into class second, are but *sequelæ* of fevers, and in effect should really belong to the first or zimotic class. Debility, dropsy, diseases of the digestive organs, and old age, for example, caused, as our table proves, much the heaviest mortality in those years in which fevers were most prevalent, and consequently *pressed with greatest force on the unacclimated.* The mortality amongst the whites for the last six years averaged 1 in 58, and during these years there were few fevers, and consequently few of the *sequelæ* just mentioned.

It is well known that typhus, as well as other epidemic diseases of the North, are either wholly unknown, or press but lightly on the South. What are termed *malarial fevers* are looked upon as the great outlets of life *here.*

We have already stated that the aggregate number of deaths from all the fevers in Charleston, (excluding yellow fever,) for eighteen years, was but 656; and the aggregate from yellow fever during the same period was 646; and there can be little doubt that the acclimated population of Mobile and New Orleans are just as much favored.

There is every reason to believe that by proper police regulations, yellow fever might be almost entirely banished from our cities. In Charleston, there have been but two epidemics of this disease in the twenty-two years, and these have been attributed to the great fire of 1838, which destroyed a large portion of the city, and left the cellars, which became filled with water and rubbish, exposed to the Summer's sun. In that year, 354 died with the yellow fever, and in the next, 1839, 134 died. In these years, it should be remembered, a large number of unacclimated mechanics flocked in to re-build the town.

In Mobile, from 1829 to 1837, a period of eight years, during which time the streets were beautifully shelled and drained, there was no yellow fever. Since that time, shelling has been neglected, and the disease has occurred five times, and twice as very extensive epidemics.

No doubt much might be done towards improving the health of New Orleans. A very sensible and instructive paper on the subject, from the pen of Dr. John Harrison, may be seen in the New Orleans Medical Journal (last number.) *

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* The reader will also refer with advantage to the article on Disease and Health in Southern Cities, by Dr. Hort, in the Commercial Review for March, 1847. Ed.

It is difficult to obtain well digested statistics of many of our northern cities. Those of Philadelphia some years back, have been made out by Dr. G. Emerson, so well known for his accuracy and ability on this and other subjects. On a comparison of the tables of Dr. Emerson with those of Charleston, it would appear that there are more deaths in Philadelphia from *all* fevers, inculding typhus and malarial, than from all fevers in Charleston, including yellow fever. From 1820 to 1830, in Philadelphia, the deaths from fevers were 13 and 5–10 per cent. on all the deaths. In Charleston for the last eighteen years, including two epidemics, the average mortality from fevers was 11 and 4-10; leaving out yellow fever, which attacks almost exclusively strangers, the mortality from other fevers will not be found to exceed seven per cent.

We must now bring to a close these too brief remarks on the zimotic class. Putting fevers aside, Charleston, as regards cholera, dysentery, diarrhœa, liver complaints, &c., as the table shows, will compare favorably with the northern towns; and when, in addition to these facts, we reflect on the comparative immunity which southern towns enjoy, from other scourges of the zimotic class, viz., small-pox, measles in several forms, scarletina, hooping-cough, and typhus, (from all of which I have not seen twenty deaths in my practice during the eleven years I have been in Mobile,) we may conclude that the climate of southern sea-ports is not so very bad after all has that been said against them.

The diseases of the organs of respiration form a very interesting point of comparison between the North and South. Though phthisis here is much more common than even our medical gentlemen are willing to admit, yet no one will contend that as many persons die South as North of diseases of the chest, including acute and chronic. We have no space here for following out this point, and must refer the reader for our facts to the January and March numbers of the Charleston Medical Journal before alluded to.

We give below another table, which will afford data for comparison with other cities on some important points. It embraces the last six years, the only years for which we have all these details. It includes blacks and whites, and it is to be regreted that the two castes cannot be separated at all ages, as we could thus be enabled to judge better of the effect of climate on each race.

TABLE III.

OF MORTALITY FOR CHARLESTON FROM 1840 TO 1846, SIX YEARS, SHOWING THE MORTALITY OF THE DIFFERENT MONTHS, AND THE AGES AT DEATH.

	Under 1 year.	1 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60
January,	35	33	9	11	23	23	28	18
February,	29	28	16	12	29	30	31	17
March,	37	28	12	14	28	32	27	22
April,	52	34	13	23	28	37	40	30
May,	67	40	17	33	33	22	30	18
June,	74	46	17	24	33	32	25	29
July,	86	53	16	24	46	32	27	19
August,	85	70	21	22	39	43	30	21
September,	57	44	11	24	62	40	35	32
October,	40	40	4	14	32	36	37	19
November,	53	34	3	20	29	20	27	16
December,	44	33	11	18	37	49	35	21
Total,	659	483	150	239	420	395	372	262
Average,	109,83	80,50	25,00	39,83	70,00	65,83	62,00	43,66
Per cent'g.	18,46	13,53	4,20	6,69	11,76	11,07	10,42	7,34
		31,99						

	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	110 to 120	Total.	Average.
January,	17	16	15	6	3	0	236	39,33
February,	15	17	7	2	0	0	233	38,83
March,	26	16	5	3	3	0	253	42,16
April,	24	22	9	4	1	1	318	53,00
May,	22	17	8	3	0	1	311	51,83
June,	22	11	10	3	0	0	326	54,33
July,	22	13	9	2	0	0	349	58,16
August,	18	10	6	7	0	1	373	62,16
September,	23	16	8	4	1	0	357	59,66
October,	17	13	12	6	1	0	271	45,16
November,	18	21	7	2	0	0	250	41,66
December,	7	13	16	4	3	0	292	48,66
	231	185	112	46	12	3	3569	594,83
Average,	38,50	30,83	18,66	7,66	2,00	,50		
Per cent'e.,	6,44	5,18	3,13	1,28	,33	,08		

We are forced for want of space to pass this table without comment, and to omit a comparison of North and South by the various methods which have been resorted to by statistical writers in order to determine the longevity of places. Judged by every test, the comparison is favorable to Charleston.

We will remark in passing the low degree of mortality amongst children in Charleston compared with northern cities. In Charleston, the mortality under five years is 31 per cent., while in Boston it is 46, and in other northern and European cities the per centage is still greater.

The average mortality for the last six years in Charleston for all ages is 1 in 51, including all classes. Blacks alone, 1 in 44; whites alone, 1 in 58, a very remarkable result, certainly. This mortality is perhaps not an unfair test, as the population during the last six years, has been undisturbed by emigration and *acclimated* in a greater proportion than at any former period.

We do not wish to be considered an apologist of southern climates generally, on the contrary, no one regards the bilious fever regions of the South with more horror than we do. Though we are satisfied that the Gulf coast generally, and many portions of the Atlantic States will compare favorably with our north-eastern States, we wish it borne in mind that we are now illustrating the climate of seaports alone.

When, then, we take into consideration the fact that yellow fever attacks only the *unacclimated*, and that bilious fevers do not affect to any extent the southern sea-ports; that these cities are comparatively exempt from many other zimotic diseases, as well as those arising from cold; that tables of mortality include all classes, and that it is only the better classes who apply for life insurance, we have strong reasons for concluding that the mortality in Charleston for the last six years, may be assumed as a safe measure for estimating the probabilities of life in that city, as well as in those of the Gulf.

We will here bring to a close our imperfect sketch, and must refer the reader who is curious in such matters, to more extended life statistics, which we have given in the January and March numbers, 1847, of the Southern Journal of Medicine, published in Charleston.

The Southern cities cannot expect, nor do they deserve justice on the subject of Life Insurance, until their vital statistics are properly kept. The subject is one of great importance and should be looked to.

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Art. II.—MANUFACTURE OF SUGAR IN LOUISIANA.

SUGAR MAKING.—STRUCTURE OF MILLS.—SETTING KETTLES AND BOILERS.—ECONOMY OF FUEL.—CLARIFICATION.—EVAPORATION.—HISTORY OF IMPROVEMENTS.—FORMATION OF CARAMEL AND MOLASSES.—CLARIFYING MATERIALS.—CLEANING KETTLES AND STEAM-PIPES.—INTRODUCTION OF STEAM.—ITS ADVANTAGES.—OPEN PANS.—VACUUM PANS.—HEATERS.—ESCAPE STEAM.—FILTRATION OF SYRUPS.—IVORY-BLACK.—PNEUMATIC PANS.—FORMS.—LIQUORING.—CRYSTALIZATION, ETC., ETC.

In Louisiana the sugar cane is passed through the mills but once, and the amount of juice obtained is rarely more than sixty per cent. of the weight of the cane. Therefore the bagass does not come out perfectly dry, and often contains half as much juice as has already been expressed, especially in horse mills, where the power is moderate and the rollers "set large." The greatest difficulty to overcome in a subsequent operation for the extraction of the remaining juice, is the absorbing power of the spongy texture of the pith, which enables it with exceeding facility to retake the juice expressed; and it has been proposed to charge it with steam at this point in order to supply the place of the more valuable sap, or by a second pressure then imposed, to wash out all the remaining saccharine of the cane, But this method, involving the increased expense of extended evaporation, greatly disproportionate to the result obtained, after repeated experiments performed on both large and small scales, has been abandoned, and attention more directly given to the operation of the first pressing in order to enhance its value and result.

In taking note, therefore, from the experience of others, we observe that those steam-mills of greatest power, moving at the least speed, yield the largest quantity of juice and the dryest bagass. The cane held for a greater length of time between the rollers, allows the larger quantity of juice to fall to a distance beyond the danger of re-absorption, and therefore increases the amount yielded by the single compression. If, therefore, we would increase the amount of work from the mill, it would be improper to double the supply of cane, or the motive power, or even the rapidity of the revolution, but to avoid the too heavy feeding, extend the length of the rollers, and continue the equal and well-spread supply along the cane-carrier, if possible even reducing the speed. The average length of rollers might be therefore advantageously increased from four to five, or, perhaps, in extraordinary cases, to five and a half feet, and involving but slight difference of construction with such an improvement. With regard to their diameter, we are of opinion it should be diminished with the increased length rather than enlarged on the principle that substances intervening in the contact of large cylinders, offer resistance in proportion to the surface they cover; and in a mill of three rollers, if the the third were of reduced diameter, the nipping surface would be proportionably increased in power, and the result of the final compression greater. With such construction and adaptation, a fourth roller to produce the third action on the cane, might be found superfluous, and the advantage of using the least possible mechanical force to produce the most juice would be apparent in the reduced quantity of gum and extractive matter from the rind, which must always exude when under great pressure. And still farther, another advantage from expressing the largest quantity of juice would be that the bagass is the more readily converted to a state fit for fuel, which becomes proportionably desirable as other fuel is scarce.

The value of all combustibles is a subject of increasing importance to every planter, as the supply of wood is diminished by his increased cultivation, and it may be worth a thought, if cutting canes too long and pressing them too closely may not be inexpedient, owing to the increased expense of fuel necessarily incurred to effect the evaporation of such juice thereby produced, surcharged with gum, and boiling with greater difficulty. Without any reliable means therefore of estimating the true value of juice, that is to say, its positive quantity of saccharine, it will be impossible to give rules to be depended upon as to quantities of fuel under any methods of application, which shall produce certain results of evaporation, or residue of sugar, to say nothing of the variable quality of plantation wood. We hear it frequently observed that it takes two or two and a half cords per hogshead, but that this is dry wood, drift, or refuse, gleaned from the clearings, is very rarely taken into account. It is therefore exceedingly difficult where coal is not the only fuel used, to obtain any reliable data for calculation of amount of caloric or steam, furnished by any given quantity of boiler, for purposes either of evaporation or steam production. Besides, this is not to be forgotten in the very many different methods of adapting combustion both to trains of kettles and to boilers. On some estates we find a train consuming three cords of bad wood per hogshead of sugar, and another half that amount of good wood is made to produce an equal result. The wet fuel to support its own combustion requires a large proportion of the heat it generates to set free the water it contains, and to prepare the repeated supplies to the fire for active combustion. The bad economy of using such wood is at once apparent, beyond the poor fire it produces, even to the extra cost of all the lost labor incurred in bringing such a collection to the sugar house; labor which would have been of positive value in the field, and brought an increase of crop.

As a branch of the subject, we would notice some of the many ways of setting the "trains" and boilers, of which there seems to be such endless variety, and none universally popular. In the East Indies we have seen a pit eight feet square dug in the ground to the depth of five feet, from this is extended a canal two feet wide and three feet deep, to any required length, the walls of which are lined with clay and the top arched with brick or stone encloses a succession of earthen pots, sometimes numbering as many as twenty. The pit is for feeding the fire; the canal is the flue under the train, in length according to the number of evaporators to be used. The process of operation varies from our own only as the pots are small and moveable, and may be conveyed from place to place along the line of fire as is necessary to the perfection of their contents. In a long train, fuel is often supplied at some of these intervening openings when the pots are removed. At the exit opening of the flue there being no chimney, a valve is aranged acting as a damper, by which the amount of fire-draught is controlled, and retaining the hot air in the chamber of the flue when required. The second fire, when of charred wood, tends to the combustion of the smoke, and the same arrangement has been applied in this country for the same purpose uuder steam-generating boilers when of unusual length, but with very unsatisfactory results.

The "bascule pans" invented by M. Guillon, and considerably used in the French colonies, have the same advantages as the train of pots; their contents are small, (shallow,) speedily evaporated, and readily removed from the fire. The inconvenience of bailing is avoided, a decided advantage to the quality of sugar they produce, at the same time a considerable amount of work may be accomplished by a small number of hands. They are constructed with an ear on each side, into which a chain connects with a crane, the latter so placed as to serve two pans, and readily convey them between the coolers and the fire.

The common train of four or five kettles made in Louisiana of cast or wrought iron, is usually permanently set in masonry, having the fire applied under the smallest or finishing kettle, and a straight canal of about a foot deep under all, extending to the chimney. Various improvements on this simple construction have been made from time to time, such as hanging the kettles entirely by enlarged flanges, leaving the whole under surface exposed to the fire; building reflecting walls under each kettle, to force the fire to sweep entirely round; curving the bottom of the canal to correspond with the curves above, and produce reverberating surfaces towards the kettles, and in fine, leaving a very large space under the whole train, the opening of draught in which is taken from the lower side, at the chimney, and is supposed to take off only the lowest stratum of air, which of course possesses least heat. All these methods are analagous to the various ways in which the boilers for steam engines have been constructed and set, and deserve especial study where economy of fuel and amount of evaporation to be performed are such important points as in sugar making. Opinions are so various in regard to what may be indeed the best method, and practice so diverse, that any interested party in quest of information on the subject, to serve his especial purpose, will do well to spend some time in examining neighboring "improvements," and he will observe that the plan adapted to one locality will not always succeed in others, and for which satisfactory reasons cannot always be given.

The additional supply of fresh air at the point of culmination of the flame under a boiler, has answered a good purpose, when the mouth of the draught has been large and tending downward, and where the fan has been applied to the fire, all other supply of air at the same opening being cut off. A damper on the chimney is indispensable. Baker's method of lining the flue under the boiler with cast iron plates of such curves as to produce reflection of the fire current toward the boiler, has been highly approved by some who have tried it. The "Argand furnace" of Williams, and the patent draught of Griffin, as they have been combined in some late constructions, possess decided merit, and is probably the best way of setting a stationary boiler without flues. The grate bars are placed very low, say three feet; the bridge-wall approaches within six inches of the boiler, and at the distance of four feet is another bridge-wall made of iron plate or pipe, perforated with many small holes, through which the fresh air is admitted to the fire as may be necessary. From this plate or pipe the flue is continued to the end of the boiler, and of a depth not less than four feet, forming a large reservoir of hot air, smoke, etc. If a cylinder boiler, the end wall is now carried up in the shape of an arch, and the opening made at its base communicating with the chimney; but for a boiler with flues the opening is made at the point next it, and of very reduced dimensions, often not exceeding an inch in depth and in length one-third of its circumference.

Upon the perfect arrangement of this end wall and adaptation of the draught there, entirely depend the use of intermediate air supply to any furnace, and it seems not too much to expect that this mode of setting might be well applied to a train of kettles constructed of iron as in use among us, when we have observed that similar principles are successful abroad as used with the pots.

Connected with the subject of fuel two important points must not be lost sight of, when comparing the relative advantages of locality before referred to, the position of cylinder-boilers, or construction of flue boilers for plantation use, and these are: fire-surface to generate steam, and the size of the reservoir for steam above the water. In the evaporation of juice we find that surface of fluid for the escape of steam, and atmospheric pressure, possess definite influence upon the progress of the work; and by analogy confirmed also by experience, we observe that boilers kept too full of water, do not supply the same quantity of steam. The method of setting cylindrical boilers in pairs, making the fire under the first, and returning it to the chimney under the other, is but a modification of the arrangement of flues, the safety of which so far as maintaining a water level in both, will chiefly depend on having the steam and water communications sufficiently large. In conclusion, we do not think that planters living upon direct water communication with the upper country, place a sufficient value upon the coal which may be landed at their door cheaper than very many can afford to take hands from the field to provide wood; and moreover, the much greater quantity of heat that can be obtained with the same labor at the furnace. The isolated instances where bagass has as yet become the regular fuel, only three or four plantations in our vicinity, are no guides from which to form calculations as to how much dependence may be placed upon it, as sufficient fuel to take off the succeeding crop. Risk of fire and damage by water are too great. Our climate is not like that of the West Indies, sufficiently dry to cure the bagass with little or no labor, even if the cane itself were equally capable by the same freedom from gum to be converted into a good combustible.

We have before spoken of the quantity of juice yielded by the canes under the mill, and of its value in saccharine according to the compression the cane undergoes. The value of crystalizable sugar it contains is too generally reckoned by the instrument of Beaumé, miscalled a saccharometer, in the very application of which the principle that has governed its construction, specific gravity, is quite lost sight of. The incompatibility of such application as a test for saccharine, any one will call to mind when using the instrument in brine or in molasses, where it will ever stand higher than in a saturated solution of pure sugar. Canes cut high, or more closely expressed, yield a greater proportion of gum and mucilage, which giving additional consistence to the juice, tends to support at greater elevation any substance floating thereon. There can be no proof of saccharine equal to that of working by evaporation, and in this test, with any apparatus in use at present, it will be seen that the same difficulties before named as impediments in the use of the saccharometer, obtain, when we would produce evaporation, the escape of steam being impeded by a viscous fluid. We would therefore observe incidentally, that such may often be a cause of the failure of some experiments in this country, which have been quoted by writers as eminently successful elsewhere. The soil of Louisiana seems to furnish a larger quantity of gum to the cane than any other, where it is cultivated, and the increased difficulty with which clarificaion is here performed compared with other places, proves a difference of constitution which involves another mode of treatment.

We find cane juice running from the mill charged with many impurities, and a variety of contrivances applied for the purpose of straining it into the reservoirs. Basketing, grass, or wire-cloth cannot be made fine enough to arrest the minute particles of soil washed from the stalk, and if they were detained by such a body as sponge, the surface would soon be covered, the passage of the juice impeded, and the necessity of frequent change of strainer increased; besides, that such substances holding the saccharine, promote fermentation. In the common operation of sugar-making, these particles of earth are not allowed sufficient time to precipitate themselves, and are consequently carried into the "grand" and onward, finally forming a part of the sugar itself, even the nuclei upon which the crystals make. Ebulition in the grand brings a portion of these impurities to the surface to mix with the froth and small particles of vegetable fibre, held together by the partially coagulated albumen of the juice, and they are then thrown off in such portions by skimming. But such clarification must necessarily be very imperfect. It has been frequently stated, and reputable authorities quoted to prove that cane-juice can be entirely resolved into sugar, less its constituent water, but simple observation will prove that sugar cannot be produced by any apparatus without producing molasses at the same time. That cane sugar is *not* "a primary secretion" of the plant, though the fact be supported by so eminent a chemist as M. Hervey, sustained by the opinion of Professor McCulloch, appears to be proved by the fact that such formation of saccharine is not found in any other instance, if here, in the whole vegetable kingdom, excluding the secretions of roots, and we trust that the farther reseaches of savans will expose such fallacies.* The quantity of molasses formed in the process of sugar-making, depends necessarily upon the quality of the cane known to be influenced by soil and season, perhaps quite as much as by the various methods of evaporation. There are certain components of the juice as natural to it as sugar, and which cannot be separated from the latter, without involving such portion as may exist in intimate combination with it. In this operation, then, as clarification progresses throughout, not by the surface only, certain portions will be precipitated, such as the unneutralized acids and free earths, together with the albuminous part not taken off by skimming, and unites with the uncrystalizable sugar made uncrystalizable by oxygenation or carbonization; in other words too much boiling and immoderate firing. Molasses consists, then, of feculances, gummy, uncrystalizable sugar, and the sugar washed down from the mass set to drain, and will be more or less valuable according to circumstances. But that its formation is indispensable to the process of sugar-making, is beyond an argument. Regarding now the causes of its formation, that they may be obviated in a measure, we observe that the theory of crystalization refers to temperature as the governing principle together with atmospheric pressure, by which the amount of product is influenced. And it is a point still to be proved, whether a high or low temperature in boiling will produce a less wasting result, more perfect crystals, and less drainings. In a digester or steam-tight boiler, a solution of pure sugar has been evaporated at a temperature maintained of 269 °, and the result of the re-crystalization was larger than of the converse experiment of boiling in vaccuum.* We know by the result of every melting, (of even the purest sugar,) and its re-crystalization, that the product is successively less in quantity, and the formation of mother-water or uncrystalizable sugar in solution, is successively greater. This can be attributed only to the effect of heat, and we may conclude that it is the inevitable result of its application.

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* Professor Liebig has advanced in a late work, that the nodes or joints of the cane operate to correct the upward current of the sap.

All sugars, all saccharine products, contain a greater or less amount of mother-water or molasses; the juices of the beet, the maple, the grape, honey, amidon made from starch, glycine, the product of oils boiled with the oxide of lead and water. It is enough that observation proves it to exist in every solution of sugar, and the results of experience are of more value than fanciful theories to convince that there can be made a sugar from the cane-juice without producing a certain and considerable quantity of molasses. Every particular of treatment to which cane-juice may be subjected in the process of being manufactured, will produce a definite result upon this residium, and the power it may possess of re-crystalization upon repeated boiling, is to be influenced chiefly by the materials used in clarification.

Juice left to itself exposed to the open air, enters sooner or later, according to temperature, into a state of fermentation which progresses through a regular series of changes, all of which have birth in the original quantities of saccharine and gum contained. The first or viscous state, is indicated by a ropy appearance, and takes place at a temperature between 86 ° and 105 °, and differs from the viscous change by the evolution of combustible gasses with carbonic acid, and the more distinct separation of the gummy matter. After effervescence has ceased the juice is found to contain lactic acid and mannite, which together possess nearly the elements of grape sugar, and are to be regarded as strong impediments to crystalization. The production of this lactic acid is facilitated by certain exposure to air, as in the apparatus called a condenser, used by Derosne, where the juice is subjected to partial evaporation, by falling in drops over a succession of copper pipes heated by steam and placed in the open air. But sour juice, such as has once passed this primary change, is not affected by such action only as it becomes more oxygenated. The acectic acid it possesses is shown by the bright appearance it gives the copper. Succeeding this viscous fermentation comes the vinous, converting all remaining saccharine into alcohol, and for which in the West Indies all sweet waters, waste sugar skimmings and scrapings, are preserved to be converted into rum, and separated by distillation. It is said that twenty minutes after juice leaves the mill is, in some cases, ample time to produce fermentation to a perceptible degree, and it is therefore apparent that no time should be lost in the process of sugar-making at this stage. However, it is a common practice to have large juice-receivers for the purpose of collecting the sediment before the operation of clarifying commences, forgetting that these two processes might be made to progress to better advantage and with economy of time by combining them.

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* Pelligot.

In the use of lime as a clarifier it is no mistake that it acts only to neutralize the acids of the juice, as far as has been yet developed, but beyond this it goes into mechanical suspension, excepting only the very small portion taken up by the water, viz., one part to 778 of water at temp. 60°, or 1 to 1270 at temp. of 212°.* And this excess applied, as well as the quantity, in solution intervening between these two given temperatures, is found to precipitate itself on the bottom of all reservoirs, and in the kettles to become by the aid of fire, a concrete, impeding the transmission of heat, and involving a cessation of the process in order to remove it. And in this removal by burning, the risk of cracking a kettle and thereby extending the delay of making the crop, by which large losses may be incurred, is very much dependent on the result of the process of clarification. Sugar is a solvent of lime, (*Ure*,) and the combination is unchrystalizable, which therefore tends to form molasses, as does also the administration of earths, metalic salts, etc. It is well known from the experience of some among us, that the use of lime is not essential to the process of sugar making, for a very beautiful product is obtained without it, indeed of a superior quality, as lime always tends in however small the quantity given, to produce a red color on the crystals, and there remains not a doubt that it is generally used in excess.

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* Dalton.

The application of chalk to cane-juice to neutralize the free acids it contains, at the same time introduces calcareous and unchrystalizable salts, which also fix a portion of sugar in a liquid state from which it is impossible to free it. And again, the precipitation of the excess of chalk or salts forms a crust on the bottom of the kettles or on steam pipes if used, which is no easy matter to remove, to say nothing of the time lost at such occupation. As a chemical agent for this purpose both in kettles and pipes, where a day or two may be allowed, vinegar will be found active and readily obtainable from sour molasses or refuse sugar set aside for fermentation, dissolving this crust that it may be either scraped or washed out.

In the use of alum as a clarifier, a state of rest is essential, and its operation on cane juice is the same as on muddy water; the hydrate of alumina is formed; a gelatinous, semi-transparent substance of greater specific gravity than water, and therefore immediately falls, taking with it the earthy particles held in suspension.[*] This action, therefore, is entirely the result of gravity, for alum has but the slightest attraction for acids, and does not fully neutralize them.—(*Brander.*) Animal albumen, whether that contained in blood, white of eggs, or milk, is always alike, and operates in a mechanical manner. Being spread in a cold state throughout the juice or solution of sugar, when heat is applied it coagulates and comes from all parts to the surface, like a net rising from the bottom, and thus collects and presents at top a crust of cooked albumen combined with all the impurities before free in the fluid.

Other substances, more distinctly known as metalic salts, are also powerful purifiers, as they possess peculiar chemical affinities. With vegetable albumen, the red sulphate of iron, the chloride of zinc, and acetate of lead readily combine and precipitate. Many other substances have been used to produce the same result by the experimentalist, but the practical man would soon be disappointed with the economy of such agents, as they almost universally ruin the molasses, both for the re-boiling and the market.[†]

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[*] Chaptal.

[†] The recipe for Howard's finings is
2½ lbs. alum,
24 lbs. water, } added to cream of lime for each 100 lbs. sugar.
3 oz. whiting,
[*Silliman's Report to Congress*, 1833.

After the application of any of these materials a state of rest is indispensable, which is by no means sufficiently appreciated in the present method of sugar making generally. This one point, in conjunction with the proper degree of temperature at which juice should be kept prior to evaporation, as before spoken of, will have a degree of influence upon the quality of the sugar and the facility with which all the subsequent evaporation can be carried on, especially as regards a vacuum pan, far beyond the present estimate of such persons who may not have observed it. That the juice boxes should be clarifiers, and not of small dimensions, will therefore appear plainly advantageous, and that the sum of their contents should be enough to allow each clarifier one or two hours rest before the juice need to be drawn off for evaporation. As to the time required for precipitation, it must be dependant somewhat upon the quality of the juice, but there are certain advantages in not extending it beyond half an hour. Cane juice once brought to within a degree of boiling and then left to rest, has not the same liability to fermentation, and will remain free from an increase of acid for an indefinite time. The affinity for oxygen is also diminished and the surface protected by the scum which at once forms upon it, thereby prevents the formation of red coloring matter so familiar to all, on the cut surface of an apple exposed to atmospheric action, and which is precisely analagous to the same chemical affinities existing in cane juice. By elevation of temperature above 115° (*Liebig*) all fermentation is prevented, and a clarifier of four hundred gallons once heated to boiling will maintain its warmth sufficiently long for common purposes. Moreover, after the addition of the clarifying materials the capacity for change is much diminished.

In ordinary kettles, when a portion of the liquid is converted into steam in contact with the bottom, it does not separate from the bottom immediately, but remains until a steam bubble of considerable size be formed, and in the meantime a part of the bottom defended by it from the contact of the liquid, becomes overheated, producing as consequences, 1st. the rapid destruction of the metal, and on that account an expense. 2d. Necessity for having originally much thicker and more costly plates of metal, which thickness is an additional impediment to the passage of heat, and therefore a proportionate waste of fuel; and lastly, when applied to vegetable extract, produces a carbonization and blackening of the overheated portions.

The primitive methods of sugar making, all by pots or kettles over the naked fires, are found productive of unchristalizable sugar and caramel. The transmission of heat from fire to a liquid through an intervening solid, whether of metal or of earth, cannot be performed in an equable and controllable manner, and this first led to the introduction of liquid media for heat, which after a few experiments were soon abandoned. Caramel, better known as burnt sugar, is formed on the sides of kettles at a temperature near 356°, (*Pelligot,*) and as it is well known that a common fire maintains a temperature of nearly 1000°, it will at once appear that to keep the surface of kettles below the point before named, can be no easy duty, and caramel will inevitably be formed to a greater or less extent. The application of the sand-bath in some of the operations of the chemist, led to the oil and mercurial baths for the evaporation of syrups. These denser liquids boil at temperatures far higher than water, and would by a natural law common to fluids in a free state, maintain an equal temperature throughout their volume, to an extent much above the one required for the evaporation of the rarer fluid; however, some facts, peculiarities in regard to their respective capacities for heat were lost sight of, but which came to be developed by experience, and caused the abandonment of the project.

Steam was next resorted to, and we see its first application in the train of MM. Fawret and Clark. Three double bottom kettles were placed immediately over a steam generating boiler, and the flue continued from this boiler passed under two large grands, in which clarification was performed, and the juice taken from them to the three first, in rotation, as in the common train. The steam, consequently, was admitted to the space between the bottoms of the kettles and supplied the place of fire to them. But these steam surfaces were of limited extent, and the work they performed depended on the tension of the vapour, which for many reasons was kept at a reduced temperature, compared with what in present use is found expedient. We next observe the introduction of a long copper pipe coiled into the kettle, through which steam was made to pass and transmit its heat to the syrup. This application was modified by Davis, of London, by placing the same coil of pipe in a cylindrical copper vessel whose bottom being flat equally facilitated the discharge and the cleansing, and it was finally perfected as we see it at the present day, by being taken from the train and fire, to be made an independent part of the apparatus. The project of setting the kettles in the top of a long boiler, to expose their under surfaces in the steam chamber below, has been proposed and experimented upon by a citizen of Louisiana, but in like manner as above, the steam surface proved to be too small, and the progress of evaporation slow. Miller's method is an improvement upon this; for the kettles over the boiler he substituted large pans with short copper pipes, set at such inclination as to return the steam condensed, by its own gravity, to the boiler below, to be again changed into vapor. It is the loss of this vapor, containing a large amount of heat, which had made the use of steam pans unpopular, as they proved then to be but small economy of fuel, if of time, in sugar making. Taking in view this fact and another, the probable condensation of steam at a very short distance from its entrance into the pipe covered with a cold liquid, has led to many changes in the construction of steam pans, some of which have decided merit. The well known fact that water does not communicate the heat it holds with so great facility as steam, the proportion being one to five and a half, has made it an object to get rid of the water as fast as it forms, and supply its place with steam; therefore the largest amount of steam surface and the most free exit for hot water becomes at once the best recommendation for an evaporator. It has been advanced that steam condenses at a distance not exceeding ten feet in a pipe immersed even in a boiling liquid, and this has led to the introduction of short pipes, but the proposition wants proof.

Several inventions have been applied to detain the vapor where wanted in the evaporators, and release it only when condensed, and the one most common is constructed with a hollow globe of copper, made to float on the surface of water in a closed iron box to which the steam-pipe opens. As the water increases in quantity, it lifts the floating globe, which connected by a lever to a valve at the bottom of the box, opens it for the escape of the water. But even with the greatest care in the construction, the copper is found to have holes, if no larger than pores, which from time to time admit the steam to condense within and convert the "float" to a "sinker." We have seen lately another contrivance which, from having answered the desired purpose, deserves description, for with all steam apparatus it must be an essential point of construction to economize the vapor and then make use of the boiling water. The steam-pipe is made to terminate on one side the top of a cast iron cylinder of about one foot diameter, and three feet long, placed under the pan. Within is a copper bucket loaded at bottom to make it float erect in the condensed water, and leading through the top of the iron cylinder is a continuation of the waste-water pipe, which descends to within two inches of the bottom of the bucket. By the steam condensed running into the cylinder on the outside of the bucket, it is floated up until its bottom touching the end of the waste-water pipe, closes the opening, but the quantity of water increasing, overflows the bucket, which sinking proportionately, opens the pipe as needed, and allows the water to escape to the reservoir. An apparatus so simple and so little liable to derangement, besides that it requires no care, should be better known and more used. Another advantage in the improved pans is, the pipes are so connected that by turning off one coupling, the whole may be raised as a door on a hinge, to facilitate the cleaning.

In the use of steam there are some phenomena worthy of especial notice. It was observed by Dalton, that to condense one pound of steam, five and a half pounds of water were required, and this water was raised by the steam, from a temperature of 60° up to 212°. It was also noticed that the time required to evaporate a given quantity of water by a certain continued supply of heat, was five and a half times as long as it took to raise the water from 60 to 212°. That the latent heat of steam increases with its rarity at low temperatures, and diminishes with its increasing density at high temperatures. From which facts we derive the points, that the economy in the use of steam for purposes of evaporation, lies in maintaining a current of vapor of low temperature without permitting the part condensed to be lost. For, as it takes but one part of fuel to generate vapor from boiling water, it takes five and a half parts to raise the water to boiling. High steam does not contain proportionate increase of sensible heat. As resistance to formation of steam exists in fluids more strongly from the pressure of the atmosphere than from the attraction of their atoms, on the removal of this pressure entirely, the fluid will boil, in vacuo, at about 140° less than in the open air. This fact exhibits the economy of the vacuum pan so far in the process as to the commencement of ebullition, but beyond that point the steam produced being more expanded and rare, has a greater latent heat; wherefore, unless the vapor taken off can be used as a fund of heat, there is no economy of fuel in the use of a vacuum more than in the open pan.—(*Arnott.*)

It was only when Watt had discovered by the experiments of Dr. Black, how much heat was lost when steam was lost, that he contrived the separate condenser for his steam engine, by which was at once saved three-fourths of the fuel formerly used.—(*Renwick.*) This has been partially applied in the "heaters" of the high pressure engines now so common throughout the country, and is an apt illustration of the economy of using the waste steam from the plantation engine for clarification; that the juice being then near the evaporating point requires but a small accession of heat to bring it to the boiling point. Further, the escape steam, if not so used, would be an entire loss. One or two pounds of detention in the outlet from the clarifiers, will equalize its pressure throughout, and secure an equable application of heat, while it will not materially impede the engine by back pressure. The great advantage that steam possesses as a medium of heat is that it is so readily applied and governed, and that it very rarely attains the power of carbonization, so much the objection to the naked fire. The economy of its production is doubtful, but of maintaining it as a continuous rotary source of heat there remains not the least doubt, which the foregoing facts will not entirely remove. The facility with which it parts with its caloric, and the readiness with which the caloric can be applied, are illustrated by the fact, that it requires ten square feet of boiler fire-surface to supply four square feet of steam pipe surface in an open pan. The estimate of some experienced engineers is even a greater disproportion, such as ten to three, and it is always desirable to have an abundant supply, as the rapidity with which the evaporation can be performed is the great desideratum in the use of such apparatus.

The very many methods invented to supercede the inconveniences resulting from cooking sugar over the naked fire, exposing it to be burnt, and increasing the quantity of molasses formed, to say nothing of the risk of fire to the buildings in which the operations are carried on, are curious, if not instructive in the history of inventions, and a brief review of them may be interesting before we look into the apparatus in use at the present day; for it has been by successive steps that all improvements have been made, and from the position the manufacturer now occupies, his retrospective view will disclose to him the obstacles which others have encountered, and their expediences to overcome these will cease to be undervalued by him, as well as in his own manufacturing to teach the true operations of physical laws.

From the application of the oil bath before spoken of, we see the oil applied through a spiral tube, as a medium of heat to syrups, but this also was entirely abandoned for the use of steam. The capacity of oil for heat was proved to be far greater than that of the syrup, and the contrivance wasteful of fuel. M. Milles Berry was the first to introduce the use of short steam-pipes, and his invention is well known as the French steam-pan. Increase of steam surface in double bottom kettles, the upper one being deeply corrugated, had not proved so effective in result as was anticipated, and this parallel structure of pipes similar to a gridiron was introduced as bearing some resemblance and having double the amount of steam surface. But here, more than in almost any other structure of pipes, the expansion and contraction of the metal being hot or cold, rendered the possibility of keeping the innumerable joints tight almost out of the question. In this pan the condensed water escapes by interior tubes, which doubly increased the difficulty. Knight of Liverpool introduced the plan of admitting hot air through a coil of pipe pierced with numerous small holes, into the boiling syrup, to carry off the vapor, while Vidder modified this invention by passing the hot air over the surface only, for the same purpose; and at a later day, to facilitate the formation of vapor in syrup, Milles Berry introduced several drums moving within each other in the pan. But all of these contrivances had the same evil, that of churning the syrups and facilitating their oxygenation, producing color and uncrystalizable sugar. When the superior advantages of the vaccuum pan first became known, not only for the purpose of sugar-making or refining, but equally for the superior quality of the extracts made by it, numerous were the plans resorted to for producing this required vacuum with the greatest economy and facility. The increase in volume of a liquid converted into vapor, being nearly seventeen hundred times, the large air-pumps and rapid strokes required before condensation of the vapor was thought of, led to extended machinery and increased cost of labor.

The invention of the condensing cistern is therefore equally valuable as that of the vacuum pan of Howard. He, too, like Watt, was indebted for the hints derived from the experiments of co-laborers, for his fame and success. Before this was applied as it now exists, we find that vapor was taken off through long coils of pipe placed in running cold water just as stills are now constructed, and the pump producing the vacuum worked both vapor and water. This application of condensation was the source of another that in sugar-making is even now considered an improvement from its economy of heat. MM. Chaponais, d'Abonille, and Cellier Blumenthal, each substituted cane-juice for water in their condensers; their apparatus more recently improved by Dumont, Degrand, and lastly by Derosne, have given us the great condenser of the Derosne and Cail apparatus, which is a succession of parallel pipes of large diameter, placed one above the other, to the number of twenty or thirty, over which the juice is made to fall in drops from one pipe to another, and is thereby considerably evaporated, and proportionably increased in value. But these vacuums all involved the use of an air-pump, which requires a large amount of motive power, and we find this led to the invention of Roth; a reservoir for steam (at a little distance from the vaccuum pan,) into which was poured through an extensive strainer, a large amount of cold water, which had for effect, after the expulsion of the air and supply of its place by vapor, to condense this vapor as rapidly as formed, and thereby maintain a partial vacuum. Davis applied revolving floats, like those of a rotary churn, for the more rapid production of steam in the pan; and another appliance was a drawing pan to take off the vapor. But the perfection of the condensing cistern, as it stands in connection with the air-pump of the present day, has superceded all other contrivance. Now, there is required to be nearly water enough to condense all the vapor, and thereby lessen the amount of work for the pump, at the same time facilitate it and perfect its operations. Too often, however, it is complained of as an intricate piece of machinery and liable to disorder, whereas if properly made and attentively worked, there is as little liability to disappointment as from any other pump. The use of water in large quantities being therefore indispensably connected with a vacuum pan, limits its application to such localities as offer sufficient supply. To overcome this difficulty, and to make entirely available the whole amount of vapor discharged from a vacuum pan, and thereby secure even an extraordinary economy of fuel, has been left for the invention of M. Rillieux, and he has perfected the combination of the apparatus in a manner not only of admirable adaptation, but good taste in structure, and such as will commend itself to any intelligent person who will devote some little time to become familiar with its operation. The method of operation is as follows: The juice being clarified by the escape steam from the engine, is once filtered through animal coal, and then passed into the first vacuum pan, which is also supplied by escape steam as far as it will suffice, and if more is wanted a direct communication is opened with the boilers; here the juice is evaporated ten or twelve degrees more, and then being at about 23° to 28° of the saccharometer, is again filtered through the coal, from which it comes ready to be finished by boiling in the second and third vacuum pans, which are supplied with steam from the first by acting as condensers to it; the syrup in them being made to boil in a higher vacuum, and of course at a lower temperature. As the vapor of the first pan is drawn into the tubes of the second, so the vapor made in the second pan is drawn through the pipes of the third, and at last condensed only when there is no farther use for it. As an economical process of evaporation, this method must supercede all others on large estates; and the eminent advantages it possesses in connection with the process of sugar-making, need no recommenpation to the practical man. Without the use of the coal-filters, the juice is entirely excluded from the air, and, not being exposed at any time to a heat above 210°, cannot produce either caramel or uncrystalizable sugar, therefore the quantity of molasses must necessarily be much less, and the color of the sugar also brighter. The use of animal coal is by no means an essential part of the apparatus of M. Rillieux, but it is so conveniently connected, and at so small a cost makes great improvement in the quality of the sugar, that it is universally adopted.

It has not been proved that this entire evaporation of cane juice in vacuum is detrimental to the quality of the product, but it is the common observation that sugar made in this way has no other flavor than "rock candy." When the loaves from the draining moulds are shaved down, they are as readily formed into stamped loaves by the usual process as in a refinery, and then if properly dried in the oven, are as durable in form. The vacuum pan used as a finisher or battery kettle, makes a grain adapted to the pneumatic pan or the forms, when it is desired to liquor the product in order to improve its quality, and for this reason as well as the much less quantity of molasses sugars produce when finished by it, recommends itself. For the production of a common brown quality it affords a superior grain, and among those who have ever used the vacuum pan we have not heard of one person willing to set it aside. M. Pelligot asserts that the formation of a large grain depends entirely on the vacuum during the concluding part of the process only, which we fully believe to be the case, and therefore where time is a greater object to the planter than fuel, as it may be where his crop is large and the season short or late, to take it in, we should advise the use of open pans as evaporators up to the last point, and then finish in a vacuum pan. The steam passing through the pipes of the open pans may be brought to the pipes of the vacuum pan, and the condensed water will partially serve the jacket. The advantages of the open pans are the extreme rapidity with which they effect the evaporation, and consequently the larger amount of work accomplished in a given time; the shortest time the juice remains exposed to the influence of heat always injurious; and under present adaptations an economy of fuel superceded by none but the apparatus before named. The medium of heat is conveniently under the control of the operator, it may be shut off and abandoned at any moment, and every boiling, if the pan is used as a finishing kettle, brought up equally to the same point, while the steam may at the same time be held back in reserve for subsequent use.

The use of escape steam for clarification is an important economy of heat, and has not been so much introduced as might have been expected of so simple an innovation. Besides the advantage of regulating the temperature applied, which it affords, another equally great is the state of entire rest which can be afterwards allowed, and that the operation of skimming can be dispensed with. The clarifiers in the apparatus both of Mr. Rillieux and of Derosne and Cail, are double, hemispherical kettles, having a cylindrical ring of sheet iron on top to increase their capacity. The steam is admitted to the space between the kettles, and what is there condensed is collected in the common hot water reservoir from which the boiler is supplied. The connection of the bone-black filters is similar in both apparatus. From them the juice is also taken to the first vacuum pan, but in the Derosne and Cail arrangement, the vapor from this pan is condensed by the application of fresh juice as before described, then again filtered through the bone-black end finished in the second vacuum pan.

The phenomena connected with boiling in vacuo are too well known to demand description here. The operation of all pans however differently constructed, is conducted in the same manner to produce same results. The pressure of the atmosphere is in all indicated by the barometer, and the temperature also of the fluid by the thermometer. These two instruments are indispensable to the pan, and operate with beautiful regularity from the known laws that in proportion as atmospheric pressure is decreased, the syrup boils at a reduced degree of temperature, and therefore both instruments serve equally well to indicate the state of vacuum. The knowledge of the point at which to make the strike must be acquired by experience, and with a little attention, care and practice, may be learned in the course of the day, to adapt the work for the subsequent operations intended, whether the sugar is to be grained in coolers, moulds, or pneumatic pans. Heretofore it has been considered essential to have a "heater" attached to a vacuum pan, for as the syrup was discharged at a reduced temperature, near 120°, it was customary to heat to near 170°, before placing it in the forms. But this "heater," which was a double bottom kettle similar to the clarifiers, is now dispensed with, except for certain other purposes.

The operation of animal coal formed from bones by confined calcination, has been too often considered to be purely mechanical when used for filtration, as in large cisterns in refineries, and perhaps grows out of the fact, that when first introduced, the filters were filled with the ivory-black mixed with sand, and it is always a long time when false theories regarding new agents are advanced, before the more correct take full possession of the public mind. The action of coal on juice and syrups, except so far as straining them on the top of the filter goes, is purely chemical, and depends for its vivacity upon the purity of the surfaces, and for amount of action on the extension of surface, temperature, etc. Therefore the method adopted for, and perfection of the calcination, will determine the quality of the coal. Formerly it was thrown away when once used, but fermentation and re-burning revive its decoloring properties, and now it is suffered to rest for a time, and afterwards re-burned in a rotary retort of very simple construction, involving but small cost to erect or to use. Thus, then, the great secret of the age in regard to sugar refining, from which large fortunes have heretofore been made, laid chiefly in the use of this simple material, and has come gradually to the knowledge of all who have sought the secret.

The use of coolers or forms, for the granulation of sugar, or even of pneumatic pans, have a relative value only as the molasses can be taken from the sugar by one or the other with greater or less facility. From the first, it has to be put in hogsheads to drain; in the second, the molasses drains into an earthen pot or trough leading to a reservoir below; and in the last, when the grain is perfectly formed, the air is withdrawn from under it, and the molasses runs down to fill the vacuum. But this contrivance has only lately been brought to successful operation, owing to certain physical obstructions dependant on temperature, moisture, etc.

"Claying of sugars" is performed by placing a small quantity of thin clay dough made with water, on the sugar forms. The clay gradually lets fall its water, which percolating downward dilutes a portion of the unchrystalizable residuum, that chiefly holds the coloring matter on the surface of the chrystals, and carries both with it to the reservoir below.

The process of "liquoring sugars" is equally simple; a saturated solution of white sugar being substituted for the clay paste. This operates to reduce the chrystals in a small degree, and assist the escape of the molasses. Molasses itself when of good quality can be used for the same purpose on goods of lower quality. When alcohol was first discovered to be the solvent for caramel, which is the principal coloring body, it was applied as a liquor, and successfully, if free from water, but the difficulty of so obtaining it, and its disadvantageous effect upon the molasses, together with the peculiar risks in using it, have caused it to be neglected, and now liquoring by syrups is the most common.

Temperature and a state of rest are the great agents in the process of chrystalization, and control in a measure the result of previous operation. Sugar-candy, an article of more extensive manufacture in the old countries of the east than with us, is dependent for its formation upon the fact that the syrup is left at a steady temperature of 140°, maintained by a stove for the space of three days. It is the only refined sugar of India, and is used after being pulverized as we use the loaf. In the island of Luconia, of which Manilla is the chief commercial port, all low qualities of sugars such as are taken from the cisterns, are drained first in baskets and afterwards in nets placed in the sun until the loaves become so hard and compact that they are transported "in bulk," without package, and this is what is called jaggery, valued there at not more than two cents per pound, being in color nearly black with minute chrystals. The art of refining is not known in the east, and the only improved sugars we find are all clayed. Molasses is of but little value, and not manufactured.

We have now passed in brief review over the whole process of sugar making as now carried on with and without innovations upon the old system. These changes, perhaps too often called "improvements," claim a glance at least from all who are interested to keep pace with the advance which art is making in the branches of industry to which our respective fortunes in life have cast us. And in this respect we ought not to be dull of observation, seeing only but by study and by subsequent reflection comprehending. The "mysteries" of the steam engine and the vacuum pan, thrown over but simple physical action, by the limited conception of ordinary minds who give them no *thought*, are dispelled by contemplation. But for this pride of our ignorance we should despise the feeling that there is anything either in the simple or refined operations of nature too large for our comprehension, or too minute to be worthy our devoted attention. If we like not what we see others do; we have learned thereby to disapprove, and will afterwards be taught to avoid their errors, though our own powers of originality and invention may not be sufficient to suggest new methods of operation. The converse of this is also true, if their success is assured we may follow their example. Though the Spaniards once could not make the egg stand on its end, there have been none so ignorant since the days of Columbus.

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Art. III.—COMMERCE OF SAVANNAH.

THE commerce of all States and cities may be generally traced to the same natural and never failing causes— local adaptation, enterprize, and industry, the sure agents of prosperous trade. Where these concomitants unite, and where this union is untramelled by arbitrary enactments, on the one hand, and unfettered by the over-fostering care of a too wise government on the other, there commerce flourishes best, and wealth pours in with an open and a ready hand. An attentive observer of events within his own time, and a careful reader of the past, will not fail to have perceived that all attempts to restrain commerce within certain and specific channels have been destructive of the very interests they have sought to cherish. All monopolies,—be they chartered associations, or the avaricious and over-reaching acts of an intermeddling government—have commonly terminated in the ruin of trade and the failure of its grasping participants. The policy of all protective and prohibitory laws in relation to trade, may very well be doubted. Wholesome and judicious enactments for the protection of the honest and the correction of the unscrupulous, are certainly desirable, and such come not within the pale of our general objections; nor are we disposed to condemn those special encouragements granted by State Legislatures to internal improvements, yet it were to be wished that the prohibitory should be severed from the permissive power, and free action allowed to all who may be able to array a sufficient amount of capital in the great work of general communion.

It is a curious and instructive subject for consideration, how far these general laws, when they have been found to combine in the case of one particular city, have operated to advance its prosperity, or how far neglected advantages, or the factitious recipes of political charlatans have reduced the once healthy body-commercial, to a state of nerveless inaction.

But our more immediate object in this article is to institute a brief inquiry into the present condition of the trade of the city of Savannah; to examine some of its peculiar advantages for a general and flourishing commerce, both foreign and domestic; to survey for a moment those rich portions of country that in all probability will ere long become tributary to her commercial greatness; also to cast a glance over those numerous avenues and intersections that already in their downward course to the ocean are seeking a resting place in Savannah.

This city may claim for itself that happy medium of climate—that *juste milieu* of temperature that quickens without enervating—that enjoys the crescive power of the tropical regions, without their noxious influences. Situated on the thirty-second parallel of north latitude, and eighty-one degrees west from Greenwich, it enjoys a winter climate which for softness and genial comfort, is unsurpassed if not unequalled. Its proximity to the Atlantic (distant but seventeen miles,) brings it within the reach of the refreshing sea-breezes, which temper the fervors of a summer solstice with a renovating coolness.

The Savannah river admits vessels drawing fourteen and a half feet of water to the wharves of the city; and it is but seldom now, in this age of improved models, that any freighting ship, at least of American structure, is compelled from want of water to stop short of the city. When that is the case, however, (and this happens more frequently with foreign ships than our own,) Four Mile Point offers a safe and commodious anchorage, where vessels of almost any draught may load and unload. The water of the river at this point is still fresh and fit for all alimentary purposes. That destructive marine insect so fatal to vessels in salt and brackish water, the *sea-worm*, so called, is unknown in this river, and should it have gained a lodgement in the bottom of a vessel previous to her entrance into these waters, a very short time only is necessary for the fresh water to destroy them. At this point, also, ships take in their water at low tide for their voyage. The Savannah is navigable for the most part of the year for steamboats of moderate draught to Augusta, two hundred and forty miles above the city of Savannah.

The early history of Georgia shows that Savannah was then counted a place remarkable for its healthy location. Built upon a bluff of pure sand forty feet above the level of the river, it seemed for a series of years to have enjoyed a singular and happy immunity from all acute and fatal diseases. We read in the early annals of its settlement that it was resorted to by invalids and men of leisure during the hot summer months, both for health and pleasure.

In process of time, however, as population increased, and agriculture and the clearing of the lands in the neighborhood of the city progressed apace, mephitic and unhealthy influences were developed, and Savannah lost caste for a while, but only for a while, as a healthy city. When it is remembered that with the influx of foreign population, ill adapted from exotic constitutions and frequently from lax habits, to the warm climate of this parallel of latitude, came in also debilitating and often fatal diseases, it may well be questioned whether its ill health arose so much from local as from imported causes. Time and circumstances, however, have wrought another change, and what with the draining of contiguous lands and judicious municipal regulations, and the introduction of a better style of living both as to houses and food, and the greater adaptation of system to climate, and the gradual exhaustion of those deleterious influences brought into existence by the original turning up of the soil, exposure by the cutting down the sheltering forests from around the city; what with these causes, we say, and what with the perpetual though gradual, constant, though almost imperceptible rotation of all climates and temperatures, Savannah has again put forth her pretensions, and is now universally allowed to be as healthy a city as any in the United States.

The graver portion of our prescribed task remains to be considered, namely, the advantages that Savannah presents to the man of business, the man of unappropriated capital, seeking for its most profitable investment—the young man of enterprize, rich in stores of industry and knowledge of business, looking anxiously around him for a location in which he may bring forth his talents and his industry to best purpose, the sturdy mechanic with his ever ready hand, watching for a place where his labor may be remunerated with a comfortable subsistence; and we have not yet named the ship owner, we have reserved him until now purposely, for he is an important item in our account. The immense amount of produce that is booked in the page of human certainties to find an exit through Savannah to some market by water, either foreign or domestic, must with a moral certainty invite to this port the unemployed ships of the north, and that is saying a good deal; for the north have a greater propensity for building ships than we have for their employment. Our pine forests gradually disappear, they float away north, they are re-edified, they return to us in the form of stately ships. That gigantic tree that the persevering cutter has with so much labor "tottled from its base," and brought to our market—that mighty tree, "meet for the mast of some tall admiral," has vanished, and where is it? It is in yonder floating structure; it has regained its original and dignified perpendicularity; it is the mast of a ship of one thousand tons; it has come to assist in transporting our produce to a foreign market. Thus our own children labor for us; thus our own products assist us to export our own products.

The position of Savannah in relation to other and surrounding states is a mark of nature's favor, and must in time place her high in the scale of commercial eminence. Florida on the south, with her shallow streams and incompetent harbors, cannot chose but seek, through her valuable inland passages from Savannah, a larger portion of her foreign trade. The railroads commencing at Savannah, and reaching on to the west for the space of three hundred and eighty-three miles, traversing regions of endless variety of products, will soon attain to the Coosa and Tennessee rivers, a distance of four hundred and thirty miles, uninterrupted except by a single portage of inconsiderable length, at Macon; and this link will doubtless be supplied ere long, and one vast chain stretch its formidable and fruitful length from the waters of the Tennessee to the waves of the Atlantic. The same point, viz., the Tennessee river, is reached by another element and other regions, untouched by the first line, find an easy and practicable channel for their trade by the means of the Savannah river to the city of Augusta, two hundred and forty miles; steam again takes up the line of march from the latter point for three hundred miles, to the Tennessee. The citizens of that State, no longer idle spectators of these efforts of their brethren of Georgia, are rousing themselves to the work, and give good promise of taking up the line where Georgia has left it, and carrying it to their capital. Pursuing this route, we arrive at the banks of the Cumberland, and following its course we are conducted to the flourishing city of St. Louis, but twenty miles below the mouth of the Missouri, and thus obtain in the valley of the great west the prize for which the Atlantic States are contending with so much industry and perseverance. Returning once more to Savannah, we ascend the Central railroad throughout its whole length, one hundred and ninety miles, and passing up the Macon and Western road, a distance of forty miles, we come to Barnesville, a point whence the most important road in the southern country must inevitably branch, and thus conduct the great tide of southwestern travel to a point from which Savannah is the nearest Atlantic city,—this latter road reaching Columbus lays open to the same favored emporium the rich cotton regions of Alabama. That this splendid work, when completed in all its branches, will draw naturally into the same current a large portion of the trade of north Alabama, north Mississippi, east Tennessee and part of west Tennessee, can scarcely be doubted by him who has a map of the country before him and is capable of tracing the various routes and roads upon it, and observing their connection, and to that capacity adds the important acquisition of experience in the past operation of similar causes. What Savannah has so long been contented to forego for want of facilities of transportation, must inevitably be hers when the great line of road communication is completed. And so pressing and powerful is the impetus of a mighty and a growing trade in all these regions through which we have conducted the reader, that the result is inevitable; no possible state of things or chain of circumstances, however adverse, can delay it long.

Again, Savannah puts forth her feelers through the waters of the Ocmulgee to a point on that noble stream where terminates the already graded railroad from Albany, near the centre of the great cotton region of Georgia, a region based on the immense shell, lime and marl formation which runs through so great a portion of the southern States. Another route of equal importance, and promising equal if not greater advantages to Savannah, is one already much talked of and by many much desired, and one which at some period not very distant, must in the very nature of things, be constructed;—we mean the natural and direct continuation of the Central railroad from Macon to Columbus. It is easy to foresee the consequences of such a route to Savannah, and not at all difficult to perceive the vast local interests that are naturally enlisted in favor of this route over all others, for a crossing of the State of Georgia. Such a route, when completed, can result in but one consequence, namely, that of rendering the whole country between the Ocmulgee, Flint and Chatahoochee rivers, the natural allies and tributaries to the trade of the Atlantic city of Georgia.

From this irregular and desultory sketch we perceive the vast prospective trade of Savannah; we view her hundred railroads, for we must call those roads hers that conduct a mighty stream of commerce to her bosom, we see her navigable and swift flowing rivers whose downward water bears the treasures of three fertile States to her wharves.

From the unfinished and somewhat undetermined condition of the various lines of internal improvement in the several States of which we have been speaking, it will readily be seen that no very exact calculation can be made as to the period when they shall, as one grand system united, though distinct, tending all to one point, though measurably unconscious of their destination, conspire to produce those commercial consequences to Savannah of which we have been speaking. It may also be imagined that the aberration of purpose consequent upon the opposing influence of so many sectional interests, may for a while protract, though it cannot long prevent that almost uniform concentration of trade to the one most expedient point, the city of Savannah. Individual influence, seconded by the magic of wealth and strong effort, may for awhile divert the course of trade into unnatural channels, but trade, like material bodies, is ruled by attractive laws, and the great magnet will ever be the one constant principle, self-interest; wherever this principle can be clearly discerned the tide of trade will follow.

If, as we have attempted to show, the natural and most expedient and the most easily reached market for the vast products of the south and west, shall be Savannah,—Savannah will be their destiny in spite of opposing interests, however cunningly and perseveringly arrayed these adverse interests may be. Savannah once the centre of all the commerce which her position and the tendency of circumstances will most certainly entitle her to, her export trade must, by a parity of reasoning, be proportionately increased, both domestic and foreign, and this increase of business products will naturally beget an uniform and progressive increase of capital and enterprise; when these two great partisans in the strife for wealth unite their forces the triumph is complete. Savannah exported during the commercial year of 1843, 285,754 bales of cotton; 25,032 tierces of rice; 7,500,000 feet of pitch pine lumber; 5,175,000 cypress shingles; 66,000 oak staves. The direct foreign import for the same period amounted only to $279,896, but as a great proportion of the articles of foreign import consumed in, and transmitted through Savannah, arrive coastwise from New York and other northern cities, it is difficult to form a calculation from any very certain data what is the actual value of the aggregate, direct and indirect foreign imports of Savannah, blended as the latter are with the coastwise imports during the period of which we have been speaking, viz., 1843. The registered, licensed and enrolled tonnage of the port of Savannah amounted to 17,920 tons, but the total amount of all tonnage frequenting our port cannot be readily arrived at, since most of the vessels engaged in the coasting trade sail under licenses which exempt them from entry or clearance at the Custom House, except when they have foreign goods on board. Leaving the amount of tonnage thus arriving and departing without official notice to conjecture, we will proceed to refer to some data concerning recorded arrivals and clearances at the Custom House, from which will be seen, by comparison, what the whole might probably have been. From the 1st of October, 1844, to the same month in 1846, there entered coastwise the port of Savannah 719 vessels, comprising an aggregate tonnage of 196,791 tons, and during the same period from foreign ports, 26,612 tons of American shipping, and 78,476 tons of foreign, by which enumeration a curious fact is brought to light, namely, that the foreign carriers of our own products outnumbered the native, in a ratio of three to one! The total amount of tonnage of all descriptions entered at the Custom House of Savannah during the two years last named was 105,089, and the total amount cleared for the same period was 133,915; the difference between these two sums arising in part from vessels remaining over in port at the commencement of the year with which we begin our calculation, and in part from vessels arriving coastwise with license, taking foreign freights and exchanging their licenses for registers, and thereby in clearing obtaining a record on the Custom House books. The value of foreign goods passing through the same channel, and for the same period, subject to duty, amounted to $310,255 39, while those not liable to duty, though of foreign import, amounted to only $19,915 21; of specie for the same period, there was an import of $65,423 86, making a grand total of foreign imports into the city of Savannah for the two years ending on the 1st of October, 1846, of $595,594 50, while the value of domestic produce exported to foreign places arrived at the important sum of $7,353,186 86. If we add to this latter sum the value of the coastwise exports for the same period, which could not have been a less amount, we have nearly fifteen millions of exports for the two years.

It must be kept in mind that during these two years Savannah had scarcely began to feel the effect of the internal facilities of transport. To what a point then, may we not reasonably expect her trade to arrive, when the numerous avenues completed in progress, and contemplated, shall be directed to one common centre, and Savannah be the grand depot of all. The Central railroad is destined *cœteris paribus*, to accomplish for Savannah what the Erie canal has done for New York, accomplishing the prediction of General Bernard, who, after carefully examining and weighing all the local advantages of this city, exclaimed "Savannah is destined to be the New York of the South." If heedful exertion and liberal means are put forth these things must eventually come to pass. We had almost said that such a result would ensue from unaided natural causes, exertion and enterprise sleeping the meanwhile, but this is saying too much and hoping too much; we only mean to imply by a strong figure, that the descending stream of trade only wants direction. It is but required of the merchants and men of capital to use the ample powers that circumstances have placed in their hands to give this direction. Savannah must not, however, imitate the rustic in the fable who waited on the banks of the river for the waters to flow by, but rather dash on with bold step, and force the stream at every practicable ford, and where there is no ford, to call on their ingenuity and enterprise to make one. In proportion to the facilities of transport will be the augmentation of products; this we venture to assume as an incontrovertible position, and every new water communication, and every new railroad opened through the State will cause thousands of hitherto uncultivated acres to start into life and fruitfulness.

The present year, although the first since the railroad has penetrated to the Cherokee country, affords striking proof of the truth of our theory as exemplified in the increased value of the commerce of Savannah. The exports of the month of February, 1847, exceed those of the same month last year, by $839,477 75. In January of the present year our exports have amounted to $1,038,954 41, while the same month in 1846 exhibited but $262,124 52, an increase of $776,829 89 in the one month of January, and a total increase in the two first months of 1847 of $1,616,307 14; this enumeration is exclusive of the coasting trade. We do not wish to conceal the fact, nor would it help us to do so, that a portion of this increase has arisen from the greater value of our staple products, the cotton and rice crops of Georgia the past year over that of the preceding. While we are speaking of this grand staple, it occurs to us to advert to the vast prospective increase in the cultivation of cotton in Georgia, as road after road pierces the numerous rich and fertile counties through which they must necessarily pass. The railroad is at once the plough and the seed, the planter and the carrier; wherever its course leads through the hitherto trackless regions of our State, energy is awakened, industry stimulated and enterprise excited in the highest degree. As our railroads have but just reached the great grain country of the State, we cannot expect that important article of trade to have been much augmented in quantity as yet, but the lapse of another year will show in all probability, a result that will carry with it the conclusion that Georgia will ere long number grain and flour among her most important exports. Cass county and the regions adjacent, are fertile and immediately contiguous to the western and Atlantic railroad, the natural feeder of the Central railroad. They will, doubtless, become the granary of lower Georgia, and after supplying all the domestic wants of the State, will ship their surplus to foreign countries, through Savannah. Those counties through which the State road runs are subject to peculiar temptations, two markets are placed before them of nearly the same facility of access. On reaching Atlanta, two roads of nearly equal length invite their attention, and await their decision. Shall they pursue the path to Augusta and thence by the Hamburg road to Charleston, or is their patriotism enough to turn the almost equal scale? No such thing; patriotism has nothing to do with such matters. Trade is governed by its own laws, and so is the *amor patriæ* of the present day. It follows, then, that the owner of the produce, who probably accompanies it to market, will be swayed by motives of interest; if he finds the facilities offered on the Western and Macon and the Central roads superior to those of the Georgia and Hamburg roads, Savannah will enjoy the fruit of his labors, all other things being equal. It must be the study of the presiding powers of the Central and Western roads to cultivate this result by good smooth tracks, plenty of cars of burden, and moderate rates of freight,—the latter *should* be so modified, and doubtless will be so ere long, that a barrel of flour can reach the Savannah market at an expense of twenty-five per cent. less than it would pay to Charleston.

The lumber business of Savannah has hitherto been an almost unnoticed item in the history of its exports, but is now too well grown to be kept out of sight. It has become a trade of very considerable importance, and employs constantly more than two hundred vessels of all sizes; Europe, the western islands of the Atlantic, the West Indies, all of the middle and eastern States of the Union are its customers. Nay, even the celestial empire itself has been found to be a market for it.

The yellow pine of Georgia, *the pinus australis* of Michaud, is confessedly the most valuable, because the most durable and the most beautiful of all the resinous woods for the purposes of structure. It differs from the pine of the same name of North and South Carolina in many of its features; the most striking one is its grain, for so the various laminæ or concentric circles that compose the tree are called. The grain of the Georgia pine is much closer and finer than that of either of the other States, and the resinous matter with which all pines abound is more firmly incorporated with the wood, and less easily extracted by water or climate. So long as this vital principle of the wood is retained, the wood itself, if free from sap, is incorruptible; but when from conspiring elementary causes, this natural aliment is parted with, (and this is soonest the case where the grain is coarse and the laminæ far asunder,) a space is left open to the alternations of air and moisture, and these are the sure harbingers of decay. It has been objected by some that this theory is not sustained in the case of pine continually covered with water, being known to remain sound for more than half a century. We answer that this case is not in the nature of an objection to the theory, inasmuch as it is not embraced in the position laid down; it is the alternations of air and moisture, of wet and dry, that cause the pine, and we believe most other woods of open texture, to decay. Neither is another instance where pine is kept entirely dry, and so continues sound for as long a period as that continually covered with water, any more at variance with our theory. The durability of Georgia pine in either of these predicaments is greater than that of most known woods. It enters largely, as before remarked, into the construction of vessels, and is used by northern ship-builders in many parts of their business. It composes the flat of the bottom, the wales, water-ways, plank sheers, beams, and indeed almost the entire between deck work of the finest ships of our country. It is also used for keels, lower masts, top-masts, bowsprits, and for the interior work of the lower hold of ships, such as clamps, ceiling, and thick streaks, it is much preferred. The between decks of a ship, when carefully finished with this wood, and well varnished, has a showy as well as a substantial appearance, and such a finish has become much the fashion within a few years. To the great demand for this wood for ship-building, we may add that which is created by its natural fitness for all purposes about machinery, where wood is used at all; also the universal demand for Georgia pine throughout the United States for floors, and many other purposes among housewrights. England imports from the State of Georgia, through the port of Savannah, at least twenty cargoes of three hundred thousand feet each, superficial measurement, per season; and when cotton freights are very low, the ratio of pitch pine shipments is greatly increased. An agent of the British government some few years ago, after exploring the pine regions of the southern country from Virginia to Louisiana, pronounced the yellow pine of Georgia to be superior to anything of the kind in the United States. This opinion seems also to have been fully entertained by the contractor for the French government, who located himself in this State after a long and critical search after the best pine of the country. The West India Islands, both British and French, take off vast quantities of Georgia pine every year, for which they pay in their own products, and in specie and bills of exchange. With these important outlets for the lumber trade of Savannah, and with the constantly increasing demand for the article, we need not be surprised to find the exports of it in ten years more than quadrupled. The Savannah and Ogeechee Canal, connecting the waters of the two rivers that give name to this work, and now nearly restored to a navigable condition, is destined to be the principal channel through which the lumber trade of Savannah is to be increased to a very great extent, so much so that it may soon bear a very respectable comparison with the two great staples of the State, cotton and rice.

It remains to say a few words concerning the probable increase in the product of this last named important article of food. The very high prices obtained by planters for their rice the present season, will in all probabillty excite many to a much more extensive cultivation of the article in future years. The introduction of machinery for threshing, cleaning, and preparing rice for market, has much facilitated the trade, and has sent it abroad in a much fairer and more perfect condition both as to grain and quality. Georgia rice may now be said to vie with, if not to excel, any other in the world. The inducements for cultivating it being increased by three important causes, viz.: increased value in market, facility of transportation, and foreign demand, it is not assuming too much, perhaps, to say that the rice crop of Georgia centering in Savannah, will in the coming year exceed 34,650 casks the crop of the past year, 1846. The cotton crop of this State, as before remarked, must be greatly increased by the causes we have mentioned, viz.: the improved demand, and facilities of transportation; that this entire crop of more than *three hundred and fifty thousand* bales, together with a respectable portion of that of Alabama and East Florida, may, by proper exertion, all be secured for the benefit of the commerce of Savannah, can scarcely be doubted by any one acquainted with the simplest elements of cause and effect. The connection of Augusta with Savannah by a railroad from the Eighty Mile Station on the Central Railroad, running through Burke county, and having its first terminus in Wanesboro, was a favorable idea for the interests of Savannah. It will remove beyond temptation the products of two or three counties that now lie more convenient to Augusta than to Savannah. It is not to be supposed that internal improvements in and about the State of Georgia will cease when all these roads we have named shall be completed, it is not in the nature of things that such should be the case; on the contrary, road will beget road, and track intersect tract, until the entire State shall be brought into intimate union, not only with itself, but with its neighboring States, and thus gradually bring about the consumation so desirable for Savannah and so necessary for her commercial eminence.

In this diffuse and irregular sketch of the present position and future prospects of the trade of Savannah, we have not aimed at tabular exactness, for it was difficult with such materials as we had before us, to be very methodical; It was our design only to shadow forth, as it were, some of the strong features of the subject, and leave to time and the accumulation of more certain data, the completion of the intention.

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Art. IV.—THE OUACHITA COUNTRY.

No. III.

THE OUACHITA AND BLACK RIVERS.—MONROE, COLUMBIA, HARRISONBURG, FARMERSVILLE, ETC.

A geographical sketch of Ouachita must necessarily embrace not only the country through which the river of that name flows, but also of all its tributary streams, comprehending its whole valley; if limited within the present boundaries of the parish, it would not be interesting nor add to the general knowledge of this section of our State.

The surveys made by order of the general government, have afforded means to make accurate maps, and give correct information as to the geographical position of all that has been surveyed.

I shall therefore offer but a few remarks which may convey some idea of the advantages which that situation presents to the inhabitants of the Ouachita valley.

The Ouachita river has its origin in the State of Arkansas; it is navigable for steamers as high up as the small new town of Arcadelphia, about five hundred and ten miles from its juncture with the Tensas and Little River, where it takes the name of Black River, which is but a continuation of Ouachita for sixty miles to its entrance into Red River, in all five hundred and seventy miles, which enters the Mississippi, (at present,) thirty-nine miles below. Before the cut off made there by Captain Shreive, the distance was but thirty miles.

From November to July, the Ouachita river presents a safe navigation for steamers. Few streams are as clear of snags and other impediments. It has been but once in nearly fifty years navigable during the whole year. The receding of the waters taking place at a time when all the produce has gone to market, and all importations have reached their destination, the interuption during four or five months is not so disadvantageous as might be supposed.

Several streams carry their tribute to the Ouachita. The most important on the western side, the Little Missouri in Arkansas, distant about two hundred and eighty miles above Monroe, is not navigable for steamboats for more than about thirty miles from its mouth; the bayou Darbonne, about two hundred and seventy miles below the Little Missouri, is the next met with on the same side. Steamboats have ascended it as far as Farmersville, about sixty miles.

Little river is a stream of some importance; it takes that name from the junction of the bayous or rivers Castor and Dogdomane, both having their springs among the hills which intervene between the Ouachita and Red River. It is now navigable at high water its whole length, about one hundred and twenty miles.*

On the eastern side of the Ouachita the first considerable stream met with is the Bayou Salines, about one hundred and fifty miles above Monroe; it is navigable to a distance of about thirty miles from its entrance into the Ouachita. The next important river is the Bartholomew, which has its origin in hills near Little Rock, in Arkansas. Steamboats have ascended it for upwards of two hundred miles from its mouth into the Ouachita; thirty-six miles above Monroe it could be made navigable at a small expense of labor much higher up in Arkansas.

The river Aux Bœuf, which has its beginning in the overflowed lands between the Bartholomew and the Mason, has its mouth at a distance of one hundred and forty miles below Monroe. Steamers have been as high up on that stream as a place called the Prairie Jefferson's Landing, a distance of about two hundred and fifty miles. The bayou Louis has its entrance in the Ouachita; seven miles below the mouth of River aux Bœuf, it is navigable by steamers its whole length, and through the lake of that name about forty miles. On the banks of that lake the French had, it is believed, formed one of their earliest settlements in this country, as mentioned before.

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* The distances here given are computed *by water*, according to the common opinion of pilots and travellers on those rivers, which differ in their meanderings. Thus the course of River aux Bœuf, as far as navigable, is on an average three times as long as a nearly straight line would make it. The same remark may apply to the course of bayou (ought to be river) Bartholomew as far as the line between Louisiana and Arkansas, (it is straighter above,) whereas on the Ouachita and most of its other tributary streams the difference does not exceed the proportion of two to one.

The Bayou Mason, situated between the River aux Bœuf and the Tensas river, is a small but handsome stream; is navigated by steamboat upwards ot sixty miles, and could easily be made for a much greater distance; it empties into the lake Tensas, the river of that name passing through it, and carrying its tribute thirty miles below, where by its junction, the Little river and Ouachita, it forms that continuation of the last named stream which is known by the name of Black river.

The Tensas issues from Lake Providence, in the parish of Carroll, its course being nearly parallel to the one of the Mason, and is now navigable for steamboats a distance of upwards of one hundred miles from its mouth. Few countries offer as many advantageous means of communication for transport of produce as the one embraced within the limits of the Ouachita valley. From several points on that river, where the distance due east to the Mississippi varies from forty to sixty miles, we have five navigable streams running nearly parallel, to wit: the Mississippi, Tensas, Mason, River aux Bœuf, and Ouachita; besides these there are several of small importance, which, however, can be made useful in intersecting the larger ones, or be rendered navigable for various distances.

The whole valley of Ouachita, contains at present about fifteen hundred miles of navigation; that advantage can be easily increased. Of these about two hundred and forty are in the State of Arkansas, the remaining twelve hundred and sixty in Louisiana. That part of the valley within this last State is bounded on the north by the line dividing the two States running on the 33° of latitude, and extending on that line from the 14° 35' longitude west from Washington, to 16° 15', it terminates at the mouth of Black river, in latitude about 31° 20' longitude ld° 16'. On its eastern limit it is nearly parallel to and approaches the Mississippi; on its western side it runs at various distances from Red river on the ridges dividing the waters, which find their way into the last from those which run into the Ouachita, covering an area of, in round numbers, about five thousand five hundred superficial miles.

An uncommon topographical feature is met with on the Ouachita river. It is that large extent of country called emphatically the Overflow; it begins at a distance of seventeen to eighteen miles above the mouth of the Bartholomew, and extends about eighty miles higher up, its breadth varies from two to ten miles on both sides of the river, forming an immense lake or reservoir, which retains a large quantity of water, which when the rivers are full, would probably submerge the country below if not remaining there until the streams getting low, it proportionally subsides.

Several small towns or villages but lately called into existence are situated on the banks of the Ouachita river. The northernmost one is Arcadelphia, about seventy miles below the Hot Springs in Arkansas; the next one descending is Campden, at the place former called Ecore à Fabri; a few short years ago but a single warehouse met the eye where now a rapidly growing town covers the land around the first solitary building.

About sixty miles below is the small village or rather hamlet of Champagnolle; it is rather a landing for steamboats having freight for the interior, or receiving cotton from the settlers in the neighborhood. It is situated not far from a place formerly known by the name of La Cache à la Tulipe. This was the (probably) *nom de guerre* of a Canadian hunter, who used it as a hiding place for his peltry, an ordinary custom of that primitive race of European descent.

Ouachita city, opposite the mouth of the Bartholomew, is a village but lately formed on the western bank of the Ouachita. The incorporated town of Monroe, the ancient site of Fort Miro, in latitude 32° 30', and about 30", is the largest in the Ouachita valley, well situated as a central point for the commerce of the surrounding country.

Columbia, in the parish of Caldwell, about eighty miles below Monroe, dates its beginning from but a short time before that parish was detached from the parish of Ouachita. It is the seat of justice for the parish.

Harrisonburg, in the parish of Cataoula, about seventy miles below Columbia, is a small town, the building of which was begun some time before Monroe assumed its present name; it is situated at the foot of the first pine hills met with on ascending the river. It possesses an advantage over Monroe, being accessible by steamboats during the whole year, while the navigation is interrupted at low water a short distance above by a flat stony and gravelly shoal nearly a mile long.

Farmersville, the seat of justice of the parish of Union, is the largest town or village in the interior, it is situated at the present head of navigation of Bayou Darbonne, it is increasing and bids fair becoming a town of some importance.

It would be a bootless task to enumerate all the inland villages in that part of the Ouachita valley within the limits of Louisiana, suffice it to say that every parish has its court house, which uniformly becomes a *nucleus* soon surrounded with houses forming towns, villages or hamlets, in proportion to the extent of the parish, its population and general resources.

Art. V.—MEXICO AND THE UNITED STATES.

SECRET MEMOIR OF ARANDA, MINISTER OF SPAIN IN 1783, IN RELATION TO THE INDEPENDENCE OF THE AMERICAN STATES.

NOTE BY THE EDITOR.—The four articles which were published during last year in our Review, from the pen of the Hon. Joel R. Poinsett, entitled THE MEXICAN WAR; THE REPUBLIC OF MEXICO; MEXICO AND THE MEXICANS; OUR ARMY IN MEXICO; contain a vast fund of information in relation to a country with which he has long been profoundly and practically familiar, and in reference to the best mode of conducting offensive operations against it by our forces. It is not singular that so sagacious an observer as Mr. Poinsett, and so military a mind should have, at a very early date, foreseen almost everything that has since occurred in our relations with Mexico, unfortunate in so many respects though brilliant in victories. That the frank and open expression of opinion in these articles should have had little practical effect is not more remarkable than many other things we see around us every day. We would enjoin a re-perusal of them upon every one, so convinced are we of their being among the most valuable that have yet appeared in the country. They present a calm discussion without show of partizan spirit, and as such have been received everywhere.

The Spanish minister, Count de Aranda, after signing the treaty of Paris in 1783, submitted to the King a secret memoir, in which he declares the independence of the British Colonies fills his mind with grief and fear, and expresses his belief that both France and Spain acted in opposition to their interests when they espoused the cause of the Colonies. He regards the existence of the United States of America as highly dangerous to the Spanish American possessions, and on this subject uses the following very remarkable language:—

"This federal republic is born a pigmy, if I may be allowed so to express myself. It has required the support of two such powerful states as France and Spain to obtain its independence. The day will come when she will be a giant, a colossus formidable even in these countries. She will forget the services she has received from the two powers and will think only of her own aggrandizement. The liberty of conscience, the facility of establishing a new population upon immense territories, together with the advantages of a new government, (meaning free,) will attract the agriculturalists and mechanics of all nations, for men ever run after fortune; and in a few years we shall see the tyranical existence of this very colossus of which I speak."

"The first step of this nation after it has become powerful, will be to take possession of the Floridas in order to have command of the Gulf of Mexico, and after having rendered difficult our commerce with New Spain, she will aspire to the conquest of that vast empire, which it will be impossible for us to defend against a formidable power established on the same continent and in its immediate neighborhood."

"These fears are well founded; they must be realized in a few years if some greater revolution even more fatal does not sooner take place in our Americas."

In conclusion he proposes as the best means of averting this imminent danger, that Spain should relinquish the Americas and establish three of the infantas, one to be king of Mexico, one of Peru, and the other of Costa Firme, retaining under the dominion of the mother country only Porto Rico and Cuba; and recommends that a treaty of commerce should be entered into between France and Spain in relation to these countries, from the advantages of which Great Britain should be excluded.

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Art. VI.—AGRICULTURE OF LOUISIANA.

THE PRESENT AND FUTURE PRODUCTS OF LOUISIANA, AND THE MEANS FOR AUGMENTING THEM.

J. D. B. DE BOW, ESQ.:—

In the few remarks I propose submitting to the readers of your valuable publication, my object will be rather to elicit than to impart information. A residence of a few weeks only in a State whose climate, soil, and topography is so entirely new to me, and even this brief period having been almost entirely absorbed in business pursuits, has afforded me little opportunity of acquiring sufficient knowledge of the products of this State to become an instructor.

In some occasional numbers of your Review that have come under my notice, I have been gratified to perceive many valuable practical articles, particularly on the subject of agriculture, which are calculated to develope the great and hitherto untasked resources of this State. The history of the production of former times, our experience of the
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present, and a wise forecast of the future, are all essential for determining the most successful policy for the reward of enterprize, labor, and capital hereafter. From the accumulated facts of the past, and the data they afford on the subject of climate, soil, and production, in connexion with the probable future wants of the commercial world, a system of practical agriculture for this State may be educed which will be subject to little risk or fluctuation, while it is attended with large and measurably certain profit.

A national board of agriculture, comprising great intelligence, sagacity, and judgment, which should have the whole subject of American production, agriculture, manufactures, and commerce, before it, could do more to indicate the true policy for each section to pursue, than can be acquired in any other way. This was the favorite plan of our illustrious Washington, and has been seduously cherished and ably advocated by many of our most intelligent statesmen since; and it would seem reasonable to the simple minded and practical citizen that while our peace establishment requires $8,000,000 for the support of the army and navy, and our war appropriations for redressing real or fancied injuries, come up to $40,000,000, a few thousand might be reasonably asked for the developement of our natural resources, in which, after all, consist our only safe reliance and strength.

Next to a national board, and in its absence, one organized by the State Legislature is the most important, and where this is unprovided by the proper authority, individual associations, comprising representations from every interest within the State, is the only means left for acheiving this object. Such a one, I am happy to know, exists here, yet without that spirit and general interest which is essential to secure the requisite success. The means are entirely within the reach of the planters whenever they choose to call them forth, and it is to be hoped that they will not long permit them to remain undeveloped.

No country of equal extent on the face of the globe seems to possess such a prodigal affluence, such an unstinted measure of agricultural wealth as the alluvial portions of Louisiana. With an area of deltal formation of several thousand square miles, which no combinations of earths or organic materials for the highest production of vegetable fertility ever surpassed; with wide-spread luxuriant prairies, and its rolling productive uplands, every acre of this State seems teeming with the elements of vegetation, the foundation of future wealth, and the sustenance of future millions. And every section of it is accessible within a convenient distance by navigable waters, or admits of easy construction of roads. Even the waters which pervade and border the State would furnish sufficient food for a population larger than now inhabits it. With a climate generally mild and healthful, and with such redundancy of resources for the support of life and the acquisition of wealth, it would seem almost superfluous to suggest the means or the motives for the attainment of either. Actual want or suffering under such circumstances cannot exist, but that absence of individual prosperity is often to be found that creates a morbid restlessness under present exigencies, and induces efforts for its alleviation in the removal to some fancied El Dorado in the yet unexplored wilderness. Such would do well to consider that there is scarcely an acre either of land or water in Louisiana that cannot be put to some profitable use, and that, too, near a market whose commerce reaching to every part of the habitable globe, renders surfeits or over supply absolutely impossible. Let us consider these products somewhat in detail.

Sugar may undoubtedly be assumed as the leading staple of the State at the present moment. In 1845, there were produced here from nine hundred and fifty five sugar-mills 207,337,000 lbs. of sugar, and about 9,330,000 gallons of molasses, amounting together to near $15,000,000. It is estimated there will be during the present year, 1,240 mills, which, at the same ratio, will carry production up to about $19,000,000 in this article alone. Accidents, mismanagement, and unforeseen casualties from the elements and the season, will probably lessen the quantity, yet it is certainly within reason to assert that scientific and careful cultivation, the use of better machinery, the general application of well established chemical principles in the manufacture of the cane, would swell the amount far beyond the assumed maximum.

The extension of cane cultivation is undoubtedly advancing more rapidly at the present moment than at any former period. Each succeeding year witnesses the extension over new territory. It is descending on both banks of the river near to its mouth; it is climbing still higher upwards on the main stream and its tributaries, and it is fast occupying every one of its innumerable bayous or outlets, while more thorough ditching and especially the adoption of draining wheels is rapidly bringing into use larger portions of tillable land in the rear, and making all far more productive. The last we conceive to be one of the most efficient means for reclaiming vast bodies of land for the future cultivation of the cane. Still further means for the augmentation of the crop are to be found in much deeper and more thorough ploughing; the use of the sub-soil plough; manuring with the bagasse and trash buried between the furrows; and a proper rotation with the cow pea or other green or vegetable fertilizers.

Cotton may be ranked next in the order of the staples of this State. But a few years since this was the leading product; but while it has been reclaiming new territory and advancing in quantity, in much of the old, the greater profit afforded by the cane has enabled the latter to usurp many of the plantations hitherto exclusively devoted to the former. In the cultivation of this leading export of America, much improvement has been witnessed within the few past years, and although excessive rain or drought, the army worm or catterpillar, blight, mildew, or rust, occasionally disappoints the hopes of the planter, yet a closer study of the habits and diseases of the plant, a careful selection of seed, the introduction of new and improved varieties, as the mastodon and others, and a nicer and more careful cultivation are all aiding to swell the aggregate of the cotton fields.

Maize, or Indian corn, ranks next among the products of the State, though what is raised within it enters to a small extent only in the exchange of commerce. It is generally consumed on the plantations where it is produced, and its value is absorbed to swell the exports of the two former staples. If viewed, however, as it is, an indispensable article of food for the laborer, the working animals, swine and poultry, it assumes a vast importance among the leading objects of attention, and much beyond the measure assigned to it at the current rates in dollars and cents. Besides the large expense of preparing, sacking and sending to market, there to pay additional sums in freight, drayage, storage, *rattage* and commissions, there is a corresponding expense of purchasing, freight, drayage, etc., in bringing it back to the plantation for consumption. All these several items must first be subtracted before we can get at the relative value of corn raised on a remote plantation or the one where it is consumed. If we go a step further, and consider its presence or absence in our granaries, as involving the question of sustenance or starvation, of life or death, of which we have at the present moment so terrible an example in Europe, we shall hereafter place a higher value on this article than we have hitherto done since the early settlement of the country. What has occurred elsewhere may occur here, and exemption from any particular calamity hitherto is no guarantee against its presence hereafter. The cultivation of maize on nearly every plantation within this State to the extent at least of its own consumption, ought to be considered a fundamental principle in its management.

Although not equally adapted to the highest production of corn as some of the choice lands between the great chain of northern lakes and the south line of Tennessee, yet where well drained and properly treated, the delta of Louisiana every where gives a remunerating crop of corn, and the lighter soils of the uplands requires but a judicious system of tillage to make a fair return in this crop for the labor and expense bestowed upon them.

If considered in an economical or domestic point of view, Indian corn throughout the valley of the Mississippi, is the most profitable crop that can be raised, as one man's labor will produce more human and animal food than in the cultivation of any other one product. With the best ploughs, a planting machine, cultivators and harrows, one person can easily plant, cultivate and harvest fifteen acres with four months labor, that will produce an average of forty bushels per acre, a quantity sufficient to sustain the existence of forty or fifty persons for an entire year. It is also like the cane, subject to fewer accidents or maladies than any other crop. Nothing but frost, excessive moisture, poverty of the soil, or negligent management, will prevent a good crop. The first may be always avoided by a late planting; thorough drainage effectually removes injurious moisture; deep ploughing and fine pulverization, especially the use of the sub-soil plough, will mitigate, if it does not wholly obviate the effects of drought, and rotation of crops and occasional application of green manures, if others are deficient, will be sufficient to prevent exhaustion.

Rice at one time formed an important staple of the State, and is now produced in quantities far greater than is generally supposed, yet to an extent much less than the soil, climate, and value of the article will justify. The rice lands of the Carolinas and Georgia are considered among their most valuable, the best being worth five hundred dollars per acre, while the best cotton lands will not command more than fifty. Why should they not be of equal value here? The want of skilful management, we fear, must be the only answer. Next to maize, rice is capable of affording the largest amount of food to man. In localities precisely suited to it, this capacity even much exceeds its rival, and nowhere is it believed it can be raised more advantageously than in this State. Immense bodies of the swamps and lowlands throughout the delta, are easily susceptible of being every way fitted for the highest and most profitable production of this grain. Suitable dykes or levees, proper ditches, both for draining and flooding the fields, with the addition of draining wheels, where their presence is necessary, is all that is necessary to secure millions of acres for this object that are now solely tenanted by every worthless specimen of the amphibious, vegetable, and animal creation. Rice may also be advantageously grown upon the uplands, and even the highest pine soils will yield enough to make it an object of attention. But in such great care is requisite to prevent exhaustion, which is scarcely possible on the rich alluvial bottoms that can be properly flooded, as the turbid water that overspreads the fields comes to the support of the crop charged with every necessary ingredient of vegetable nutrition.

One reason why rice has not hitherto been made an object of greater attention here is the want of proper machines for planting and preparing for market. Those of the latest and best construction have been for some time used in the Atlantic States, and may now be had in this city. With these at command, with a soil, climate, and the facilities for irrigation so entirely adapted to the purpose, there is no good reason why rice should not again become one of the most important branches of agricultural attention in Louisiana.

Indigo was the leading product of this State a century since, yet now it is scarcely cultivated. Two millions of acres of the most fertile cotton lands within the State are every way adapted to its profitable growth. Its culture here was gradually abandoned for the greater profits afforded by other articles, particularly sugar and coton. The demand for it from the extension of our manufacturers is annually increasing its consumption in this country, and the application of the latest chemical science to its maceration and preparation for market, would undoubtedly render this an object well worthy of attention at the present time. Tobacco may be raised here of the finest quality and to an unlimited extent. If production be combined with its manufacture for the supply of this and other markets, few objects would better repay the labor and capital invested than this. The choicest qualities of leaf are produced on this soil which are scarcely surpassed by the best brands of the Havana.

Madder, woad, weld, saffron, sumach, etc., used primarily for dyes, and already in large demand by the northern manufacturers in this country, can be raised here with decided profit. The first is also a valuable food for cattle; saffron is used medicinally, and the astringent properties of the sumach renders it a substitute for the tannin of the oak and hemlock, where they do not exist. Roots and almost every species of culinary vegetable can be raised to the full extent of the wants of the inhabitants, and the sweet potato may be grown for exportation with decided profit. Of fruits, the orange and the fig thrive remarkably within the State, and the former may be exported, and with equal advantage to the planter as any other crop. The peach, the apricot, and nectarine produce largely and of the finest quality, when properly treated. The plum and the apple, the olive, the lemon, the lime, etc., may, with proper attention be reared on such soils and in such localities as are suited to their habits and characteristics. The wild mulberry grows spontaneously in the forests of this State, and the *morus multicaulis* and other varieties of the Italian succeed admirably on the drier soils. This ensures success for the silk worm wherever introduced, as it may undoubtedly be hereafter, on the uplands with decided advantage. The equable temperature and condensed nutritive foliage afforded by such localities, and they sweep around a larger portion of the northern part of the State, will undoubtedly produce healthy silk worms, and as heavy, valuable cocoons as are yielded in any part of the world.

These are a few among the many objects that should arrest the attention of the intelligent and enterprising agriculturalists before seeking them further south and west, and still more remote from the seaboard, where for a coming century at least he must look for the most profitable market for his products.

The false ambition for large plantations, and operations and achievements beyond the legitimate means of the owner, has been and still continues to be the bane of citizens of our new States. This policy may result in giving to the few, large landed estates, yet really less pecuniary income than would result to the shrewd manager, where a denser population existed, and more aggregate and active wealth circulated among the mass, the necessary result of a greater and more *intense* production. In looking over some of the plantations of this region, where large masses of land are either wholly or partially unsubdued, and the remainder admits of much higher cultivation, one cannot but be forcibly impressed with the consideration that the old maxim "*divide and conquer*," has a much more pregnant and salutary bearing on the welfare of the human race than was ever assigned to it by the ambitious Roman. "A little land well tilled," while vastly more beneficial to the State and the middle property classes, is perhaps, of equal or even greater advantage to the opulent, than the present system of overgrown and half cultivated plantations. A division of labor and a variety in the objects of agricultural pursuits, are equally essential to call into profitable action the various traits of human character, the attainments of the greatest good to the greatest number, and the full developement of the vast agricultural resources of this great State.

The foregoing embrace a few hints which may be successfully and almost indefinitely extended by your more experienced correspondents, for the more effectual and profitable augmentation of the present and future products of Louisiana.

Very respectfully,
R. L. A.

Art. VIII.—THE NEGRO.

J. D. B. De Bow, Esq.:—

You request the correspondence of southern planters, and I am one. If the "raw material" which I give you be of any service, use it. The subject shall be "*Our Slaves*."

I have been conversant with the health of negroes and the treatment of them in many localities and by many masters. I have practised medicine on large and small estates, and have attempted different modes of management, observing closely and to profit the good or bad systems of others. I am a southerner and my ancestors before me were southerners. I am a slaveholder and have been so for a quarter of a century.

There are planters even at this date who regard their sole interest to consist in large crops, leaving out of view altogether the value of negro property and its possible deterioration by unskillful usage, like any other property. To say nothing about morality, this is a great pecuniary evil, as can easily be shown.

Negroes as a race can neither do as much work nor continue at it as long as the whites. This all admit, and yet how few practically. On how many estates, not from any bad motive, but from the want of due reflection, are they called upon after the labors of the day are over in the field, to prepare their food by cooking and to do the washing, etc., of themselves and families. Our ideas are that such an arrangement is bad economy to the planters, and that a distribution of labor here as everywhere would be greatly to their advantage.

Houses for negroes should be elevated at least two feet above the earth, with good plank flooring, weather proof, and with capacious windows and doors for ventilation, a large fireplace, and wood convenient. A negro house should never be crowded. One sixteen or eighteen feet square is not too large for a man and woman and three or four small children, and the master or overseer should look weekly to its cleanliness.

Good water is far more essential than many suppose, or than I could be persuaded myself until within a few years. Cistern water not too cold will on any plantation save enough in doctor's fees to refund the extra expense. I would not allow bayou, or spring, or well water to be taken into the field, nor should there ever be a deficiency of water there. Negroes are a thriftless, thoughtless people, and have to be restricted in many points essential to their constitutions and health. Left to themselves they will over eat, unseasonably eat, walk half the night, sleep on the ground, out of doors, anywhere.

I have thought that I could tell beforehand when negroes would be sickly, and could point to those who would be affected. There are constitutions that for a time will bear up against exposure and hard usage, but nature will after a while give way, and even with the stoutest constitutions we can rely upon disease following a cold wet winter. We can expect the negroes to be sick who have been exposed early or late, in wet, in cold, in mud and water.

The great object is to prevent disease and prolong the useful laboring period of the negro's life. Thus does interest point out the humane course.

I would therefore say rather lose the time than suffer the slave's exposure to the elements. Send them into the field at daylight and no earlier. Let the breakfast occupy half an hour and the dinner one hour, and the day's work be ended in season for them to be at home by nightfall.

In relation to food a word might be ventured; the point is to provide enough. Too little, independently of other effects, will lead to pillage. A peck of meal, four pounds of good meat, with such vegetables, potatoes, peas, etc., as can be provided without any expense, is a good week's allowance. Cleanliness in cooking should be insisted on; negroes suffer from the indiscreet use of fruit, it should be prohibited them except at mid-day, and as in the summer season at the south little field work at this period of the day can be done to advantage, it is well to rest.

I have followed my own laborers for many years, and though not a large proprietor, my crops have not shown badly, and I am certain with the system I advise my efforts have been attended with the best results.

Note by the Editor.—The *economical* question which our correspondent has raised in relation to the management of slaves is one worthy enough of discussion. Considerations of interest being clearly shown to be upon the side of humanity, the latter may be supposed to have acquired some additional sanction, so frail are our natures. It is one of the beauties of this world's government that there is always a perfect harmony between the interests and the permanent happiness of men. However the good or bad treatment of the slaves as of any other created thing, is a question of morals and religion brought home upon us by the imperative decrees of the Creator himself, and is so regarded by the vast proportion; nay, we ought even say by the whole slave-holding region of the Union. As men, if not as christians, we have only to know our duty in this behalf, we think, to do it.

In relation to *slavery* many interesting subjects continually occur to the mind which we shall be most happy to have discussed in our pages by correspondents. We have, ourselves, taken them up more than once, but a variety of engagements has as often arrested our progress, and rough papers only have accumulated upon the desk.

Among these subjects, however, is not the *argument* for or against the institution, for that has long since been settled, and so far as the south is concerned, should never more be mooted. We have defended our institutions with all that reason or argument could suggest, and had there been for our judges Euclid, La Place, Newton, or Bacon, it would have been conceded to us that *moral* truth is as susceptible of lucid, convincing, overpowering demonstration as *mathematical*. But these have not been our judges. We have not been listened to while we spoke; they would not listen were one to speak from the dead. Even patience becomes a vice. What others think is nothing; for us there has come to be but one sentiment now,—as Southerners, as *Americans*, as MEN, we deny the right of being *called to account* for our institutions, our policy, our laws, or our government. For these there is no *explanation* to be made, no *apology;* it is sufficient that we, we the people of a State, we the people of half the States of this Union, in our sovereign capacity, in our sovereign right, in our sovereign independence of all other people or peoples upon earth, of all mortal men, have decreed our institutions as they are, *and so will dare maintain them!*

But the question of improving the moral or physical condition of the slave, or his better regulation by law and policy, adapted to his condition, his wants, necessities and rights, or his improved *status* as an agent in the production of wealth, or the history of slavery in antiquity and since, or the effects of emancipation, colonization, etc., etc., These are points of interest not only to the south but to the Union, and open a wide field for investigation and comment; we invite them.

On one or two of these points we shall venture now a few hasty notes which are all that space will admit.

Slavery and the slave trade, says Bancroft, are older than the records of human society. They existed among the Egyptians and the Hebrews. All Phœnicea and Scythia trafficked in slaves. At Athens, at Macedon, at Rome, most repulsively under the Anglo Saxons; in Germany, France, Russia, Turkey, Italy. The population of classic Athens was 84,000 free citizens, 40,000 aliens, 400,000 slaves. The Roman slaveholder was an absolute despot. Italy and Sicily were full of *Ergastula* in which slaves were kept at labor. One of the most formidable insurrections was occasioned by the breaking up of these and the simultaneous liberation of sixty thousand slaves.* The popes of Rome admitted and regulated the institution, as is shown in the letters of Bishop England to the Hon. John Forsythe. Christianity introduced a new feature. The Crusaders established the principle that infidels might be enslaved. Even Lord Bacon seemed to admit that war might be made upon them for the propagation of the Christian faith. When the Moors, overcome by Christians, removed to Africa, all Africans were esteemed Moors; hence African slavery.* But African slavery first existed in Africa. Violence, rapine, and slaughter prevailed throughout its whole extent. The despotisms, the customs, and the superstition of Africa, have all multiplied bondage in that dark continent. In the upper country, on the Senegal and the Gambia, three-fourths of the population are slaves whose masters are the absolute owners of their children and all that they have.†

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* "The South Vindicated," page 31.

Herodotus speaks of negro slaves. The negro race exists in the catacombs in the mixed or negroloid character. If negroes, as is more than probable, were numerous in Egypt, their social position was chiefly in ancient times what it is yet, that of plebeians, servants, and slaves. (Nott on the Caucassian and negro races.) Negro slaves existed in Greece and Rome. They existed in Europe before the discovery of America. As early as 1443 they were introduced from Africa by the Portuguese. The Spaniards are even said to have preceded the Portuguese. Many of the English sovereigns engaged in the African slave trade and partook of its profits. Queen Elizabeth the first. The first emigrants to America enslaved the Indians. Massachussetts received the first slaves. The proprietors of Virginia trafficked in white slaves. In 1620 African slaves were introduced into Virginia. The Barbadoes planters introduced them into Carolina coeval with the colony. In a few years they out numbered the whites two to one. The slave trade terminated first at the south, viz.: in Virginia, 1778. Similar laws were passed in Denmark, 1803; the United States under the constitution, in 1808; Great Britain, 1808; France, 1815; Sweden, 1813; Netherlands, 1818; Spain, 1820; Brazil, 1826.‡

The census of the United States shows

1790	697,697	slaves,	3,929,827	population,	or 21,59	to 100
1800	896,849	"	5,305,925	"	18,99	"
1810	1,191,364	"	7,289,314	"	19,53	"
1820	1,538,064	"	9,638,181	"	18,99	"
1830	2,010,436	"	12,856,407	"	18,53	"
1840	2,487,355	"	17,063,353		14,50	"

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* Southern Review.

† Thornton's Slavery, page 7

‡ Without expressing any opinion upon the questions which have been raised in relation to the *physiology* of the negro, we would extract a few facts from the lectures of Dr. Nott of Mobile, which excited so much attention. We state his facts without adopting his speculations, theories, or conclusions.

"When the Caucassian and negro are compared, one of the most striking and important points of difference is seen in the conformation of the head. The head of the negro is smaller by a full tenth; the forehead is narrower and more receding, in consequence of which the anterior or intellectual portion of the brain is defective; the upper jaw is broader and more projecting; the under jaw inclines out, and is deficient in chin; the lips are larger and correspond with the bony structure; the teeth point obliquely forward and resemble in shape those of carnivorous animals: the bones of the head are thicker, more dense and heavy, and the same fact exists with regard to the other bones of the skeleton. Dr. Gall in his laborious researches, has established the important fact, which is now conceded, that there is in the animal kingdom a

Art. IX.—THE MISSISSIPPI.—ITS SOURCES.—MOUTH AND VALLEY.

THE great CENTRAL REGION OF AMERICA, which extends from the Rocky mountains to the lakes and sweeps away to the mouth of the Atchafalaya, and along the shores of the gulf—bounded by a perimeter of two thousand leagues, with an area of a million and a quarter of square miles, a population verging upon that of all the remaining portions of the Union, and a trade demanding access to all the markets of the world, belongs to the history of the generation of men that are now alive, and in the creation of which they have been the moving agents. In comparison, all the marvellous developments of the past sink into nothing; the famed fertility of the Nile, the Scandinavian forests prolific of men, and earning the epithet "cradle of the human race," the overshadowing growth of Rome and Roman power. Nothing,—nothing in the scale of progress of this western world, sobering rather than exciting the fancy that would contemplate its future.

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regular gradation in the form of the brain, from the Caucassian down to the lowest order of animals, and that the intellectual faculties and instincts are commensurate with the size and form. In animals where the senses and sensual faculties predominate, the nerves coming off from the brain are large, and we find the nerves of the negro larger than those of the Caucassian. In other portions of the skeleton, differences not less marked are presented. The arm of the African is much longer than in the Caucassian. A negro of five feet six has an arm as long as a white man of six feet. The arm from the elbow to the hand is much longer in proportion than in the white man; his hand is longer, more bony and tendinous; the nails more projecting and stronger. The chest of the negro is more compressed latterally, and deeper through from before backwards; the bones of the pelvis in the male are more slender and narrow; the muscles on the sides of the pelvis are less full, but more full posteriorily. In the two races the lower limbs are in their relative proportion reversed; in their *entire* measurement the legs of the African are shorter, but the thigh longer and flatter. The bones at the knee joint instead of being straight, are joined at an obtuse angle, pointing forward. The shape of the shin-bone, calf, foot and heel are familiar to you all."

"Among the slave population of Louisiana, the insane and idiots number 1 in 4,310; in South Carolina, 1 in 2,477; in Virginia, 1 in 1,299; but what a different picture is presented at the North. In Massachussetts there is in that class of population, 1 insane or idiot in 43, and in Maine, 1 in 14!!!

"From a correspondence published in the Boston Statesman, in April last, are taken the following statistics:—

"In a colored population of 2,634,348, including free blacks, there are 1,980 over 100 hundred years of age; whereas there are but 647 whites over 100 in a population of 14,581,000.

"Dr. Niles in a pamphlet published in 1827, gave a comparative statement of mortality in the cities of Philadelphia, New York, and Baltimore, deduced from official reports of the Boards of Health of the respective cities, from which it appears that in the years 1823, 4, 5, and 6, the deaths were as follows:—

	New York	*Philadelphia*	*Baltimore*
Whites,	1 in 40	1 in 31,82	1 in 44,29
Free Blacks,	1 in 18	1 in 19,91	1 in 32
Slaves,			1 in 77

In Boston the number of deaths annually among the colored population, is about 1 in 15, and there are fewer pure blacks in this city than any other. The same comparative mortality between mulattoes and blacks exists in the West Indies and Guiana, where unfavorable social causes do not operate against the mulattoes as in the United States.

It is not for us now to dwell upon the era of savage domain over thi empire; the first whisperings of its existence breathed to European ears; the early and romantic adventures to its midst; the marvellous naration of the early explorers and travellers; their lives of incident and daring; their successes and reverses; the triumphant progress of civilized population beyond all haunts of civilized life; the aboriginal yielding to the stern destiny which had decreed him to melt away, a tenant at sufferance, only until the coming of the lord proprietors of the soil.

At the era of the census of 1790, after the American revolution had been won, after sixteen years of American independence, and the adoption of a federal Constitution, nine-tenths of all the people of America were eastward of the Allegheny mountains. Scattering settlements only had passed this great barrier. "Tribes of fierce savages stood opposed, but the destiny of things could not be stayed. During the decennial period of 1790 to 1800 the savages were crushed and settlements greatly extended and population increased, expanding into the central basin."

This *central basin* includes the western portions of the States of New York, Pennsylvania and Virginia, and the whole of Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Arkansas, Missouri, Illinois, Indiana, Ohio, Michigan, Iowa and Wisconsin.

The population of these vast territories was in 1800 482,777, having increased about one and a half per cent. per annum since 1790. In 1810 it amounted to 1,090,158, having doubled in ten years; in 1820, 2,217,464, having doubled again; in 1830, 3,672,569, or about seven to the square mile; in 1840, 5,302,918, or ten to the square mile. In these items the western portions of New York, Pennsylvania and Virginia are not included. If they be added for 1840, the total western population may be set down at 7,948,789, or fourteen to the square mile. The following table, prepared by Mr. Darby for the use of government, is computed on the supposition that the decennial increase from 1830 to 1840, has since been preserved:

POPULATION OF THE GREAT CENTRAL BASIN IN 1847.

Western New York,	50,600	Arkansas,	161,600
Western Pennsylvania,	564,600	Missouri,	529,000
Western Virginia,	222,300	Illinois,	867,000
Kentucky,	834,970	Indiana,	891,566
Tennessee,	857,590	Ohio,	1,862,400
Alabama,	759,500	Michigan,	321,000
Mississippi,	459,070	*Iowa,	60,000
Louisiana,	434,100	*Wisconsin,	50,000
		TOTAL,	8,925,696

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* These estimates of Mr. Darby in relation to Iowa and Wisconsin are greatly

Being about eighteen to the square mile, or one-ninth the density of Great Britain, Portugal, Spain, and France. The whole population of the United States at the same period being computed at 21,174,557.

To give any notion of the agricultural wealth of this region would require access to more complete information than any that can be had by us now. The census, which was taken in 1840, whatever its merits, could be of but little practical value, since in the progress of such a country the history of several years is as a century in older communities. We will yet introduce a few facts, if only to stimulate further the readers investigations.

ESTIMATED AGRICULTURAL PRODUCTS OF THE GREAT WEST, 1845.*

	Wheat. bushels.	Oats. bushels.	Corn. bushels.	Potatoes. bushels.	Tobacco. lbs.	Cotton. lbs.	Sugar. lbs.
Kentucky,	4,769,000	13,091.000	54,626,000	1,608,000	63,310,000	1.900,000	2,110,000
Tennessee,	8,340,000	8,625,000	79,265 000	2,256,000	37,109,000	48,000,000	520,000
Alabama,	960,000	1,537,000	16,650,000	1,636,000	341,000	145,000,000	12,000
Mississippi,	378,000	1,189 000	2,167,000	3.040,000	193,600	236,000,000	———
Louisiana,	———	———	8,360,000	1,299,000	———	185,000,000	175,000,000
Arkansas,	2,427,000	456,000	8,250,000	642,000	———	17,000,000	5,000
Missouri,	1,625,000	6,466,000	15,696,000	875,000	13,744,000	200,000	450,000
Illinois,	4.563,000	12,967,000	25,684,000	2,681,000	1,168,000	270,000	600,000
Indiana,	7,044,000	13,902,000	30,625,000	2,680,000	3,520,000	———	8,000,000
Ohio,	13,572,000	24,447,000	57,600,000	4,120,000	7,576,800	———	3,900,000
Michigan,	7,061,000	4,815,000	4,946,000	4,555,000	———	———	3,000,000
Iowa,	793,000	681,000	2,028,000	516,000	———	———	150,000
Wisconsin,	971,000	1,900,000	672,000	938,000	———	———	300,000
Total,	58,423,000	86,336,000	297,396,000	26,696,000	126,962,400	631,670,000	194,047,000

Western New York, Pennsylvania and Virginia are also extensive agricultural regions, but it is almost impossible to give the exact amount of their products. Knowing what proportion of these States are included in the valley, and also their gross products, and remembering that the valley is by far the most agricultural, we should add at least four millions bushels wheat, three millions bushels oats, eight millions bushels corn, two and a half millions bushels potatoes, and three millions pounds tobacco, to the gross amount given above.

Mr. Calhoun, in his great Report on the Memphis Convention, kindled with the magnificent theme which was presented before him, a population pressing upon the limits of the Rocky mountains, a tonnage augmented thirty fold in thirty years, a trade already equalling the whole foreign exports and imports of the United States together, three hundred millions of dollars, and this but in the beginning. "Looking beyond to a not very distant future, when this immense valley, containing within its limits one million two hundred thousand square miles, lying in its whole extent in the temperate zone, and occupying a position midway

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short of the reality. The census of Wisconsin, taken the present year, shows the total 155,000. Iowa had 43,000 in 1840, and the increase since is estimated at 12,000 a year, making the present population 120,000 at least.

* The reader will find the accurate and detailed statistics of the American crops in the numbers of the Commercial Review for 1846, particularly in the March, May, June, November and December numbers.

between the Atlantic and the Pacific oceans, unequalled in fertility and the diversity of its productions, intersected in every direction by the mighty stream, including its tributaries, by which it is drained, and which supply a continuous navigation of upwards of ten thousand miles, with a coast, including both banks, of twice that length, shall be crowded with population and its resources fully developed, imagination itself is taxed in the attempt to realize the magnitude of its commerce."

The Mississippi river, with its greater and less tributaries draining the whole of this immense country, and conducting its products and its commerce to the highway of nations, are worthy of elaborate consideration. We have designed a few pages upon this head, and suppose that there are few topics which could have wider interest with our countrymen, and few with which the world at large have less familiarity. Nature has created nothing upon our continent more stupendous than these waters, and they are as much characteristic of the great American republic as the institutions, the policy, the liberty, which distinguish it from all the nations of earth. Characteristic we say, for there is that in the physical aspect of a country, which if it does not influence the moral and political condition, is yet discovered to be in harmony with them. Vastness and grandeur in nature cannot be contemplated without elevation of thought and sentiment in nature's offspring. Could one be a craven by the side of Niagara? a slave's fetters might not be rivetted on Alpine heighths. Man sympathises with nature, and nature with man, so that Goldsmith uttered but the sentiment of humanity when he exclaimed from wild and elevated prospects,

"———Creation's heir,
The world,—the world is mine."

And first of the Mississippi proper. In the 47° 10' N. lat. and the 94° 54' W. long. at an elevation of 1680 feet above the level of the ocean, and at a distance of 2896 miles, on the summit of the *Hauteurs de Terre*, the dividing ridge from the Red river of the north, a little pool fed by the gurgling waters of neighboring hills, discharges a tiny rivulet, which meandering over sand and pebble, dancing in shade and sunbeam winds on its modest way. In breadth and depth scarce measured by a span, the timid water-course mirrors nodding wild flowers, and floats forest leaves, a miniature fleet that gentle breezes waft and eddies whirl. Ever and anon it blends with kindred streamlets, and forms at last a minor lake. "From this lake issues a second rivulet, a cradled Hercules, giving promise of the strength of his maturity; for its velocity has increased, it transports the smaller branches of trees; it begins to form sand bars; its bends are more decided, and it subsides again into a third basin, larger than the two preceding. Thus attained renewed vigor, tried its consequence upon an additional length of two or three miles, empties at last into the Lake Itasca."

For the following table of distances and elevation, we are indebted to "Bradford's Notes on the North-West, 1846."

DISTANCES ON THE MISSISSIPPI.

	From Gulf Mexico. *Miles.*	Altitude. *Feet.*
New Orleans, Cathedral and level of its pavement,	104	10.5
Red River, Island opposite Mouth,	340	76
Natchez, Light-house,	406	86
Yazoo River, Mouth,	534	—
New Madrid, Missouri,	1115	—
Ohio River, north side, Mouth,	1216	324
St. Louis, garden of the Cathedral,	1390	382
Illinois River, the Mouth,	1426	—
Prairie du Chien, American Fur Trader's House,	1932	642
Upper Iowa River,	1978	—
St. Peters River, the Mouth,	2192	744
Falls of St. Anthony, U. S. Cottage,	2200	856
Lake Cass, the Old Trading House,	2755	1402
Itasca Lake, Schoolcraft's Island,	2890	1575
Utmost Sources of the Mississippi, at the summit of the Hauteurs de Terre,	2896*	1680

The next principal river of the west and the main tributaries or branch of the Mississippi is the Missouri, a description of which we cannot better give than in the language of the eminent geographer introduced above:

> The springs which give rise to the Missouri are not more than a mile distant from some of the head waters of the Columbia, which flows W. into the Pacific ocean. At the distance of 411 miles from the extreme point of the navigation of its head branches, are what are denominated the "Gates of the Rocky Mountains," which present a view exceedingly grand. For the distance of 5¾ miles the rocks rise perpendicularly from the margin of the river to the height of 1200 feet. The river is compressed to the width of 150 yards, and for the first three miles there is only one spot, and that only of a few yards, on which a man could stand, between the water and the perpendicular ascent of the mountain. At the distance of 110 miles below this, and 521 miles from its source, are the Great Falls, 2,575 miles above its entrance into the Mississippi. The river descends by a succession of rapids and falls, 357 feet in about 16½ miles. The lower and greatest fall has a perpendicular pitch of 87 feet; the second of 19 feet; the third of 47 feet; the fourth of 26 feet. Between and below these falls are continual rapids of from 3 to 18 feet descent. These falls, next to those of Niagara, are the grandest on the continent. The course of the river above these falls is northerly. The Yellowstone river, 800 yards wide at its mouth, probably the largest tributary of the Missouri enters it on the south-west side, 1216 miles from its navigable source, and about 1880 miles from its mouth. This river, at the place of junction, is as large as the Missouri. Steamboats ascend to this place, and could go farther by each branch. Chienne river, 400 yards wide at its mouth, enters the Missouri on the south-west side, 1310 miles from its mouth, in 44° 20' N. latitude. White river, 300 yards wide, enters it on the south-west side, 1130 miles from its mouth. Big Sioux river, 110 yards wide, enters 853 miles from its mouth, in 42° 48' N. lat., on the north-east side. Platte river, 600 yards wide at its mouth, enters it on the south-west side, 600 miles from its mouth, in 40° 50' lat. Kanzas river, 233 yards wide at its mouth, enters it on the south-west side, in 39° 5' N. lat., at

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* This table on the authority of Nicollet, Schoolcraft, makes the whole length three thousand one hundred and sixty miles.

the distance of 340 miles from its mouth. Grand River enters it on the north-east side, 240 miles from its mouth, and is 190 yards wide. La Mine river, 70 yards wide, enters it 200 hundred miles from its mouth. Osage river, 397 yards wide at its mouth, enters it on the south-west side, in 38° 31' N. lat., 133 miles from its mouth. Gasconade river enters it on the south-west side, in 38° 45' N. latitude, 100 miles from its mouth. The Missouri enters Mississippi river, 3096 miles from its source, which added to 1253 miles, the distance to the Gulf of Mexico, makes its whole length 4349 miles;* and it is probably the longest river in the world. Through its whole course, there is no substantial obstruction of the navigation before arriving at the great falls. Its principal tributaries are each navigable from 100 to 800 miles. The alluvial, fertile soil on this stream and its tributaries is not very broad, and back of this are prairies of vast extent. Through the greater part of its course the Missouri is a rapid and turbid stream, and in the upper part of its course, flows through an arid and sterile country. It is over half a mile wide at its mouth, and through a greater part of its course it is wider. Notwithstanding it drains such an extensive country, and receives so many large tributaries, at certain seasons it is shallow, hardly affording sufficient water for steamboat navigation, owing to its passing through a dry and open country, and being subject to extensive evaporation."

Lastly, let us exhibit a sketch of the Ohio:

"The Ohio is formed by the confluence of Alleghany river from the north, and Monongahela from the south, at Pittsburgh in the western part of Pennsylvania. The Alleghany river rises in Porter county, Pennsylvania, on the west side of the Alleghany mountains, flows into the State of New York, and returns into Pennsylvania, and is the most important tributary of the Ohio. It is navigable for boats of a hundred tons and of a light draft to Olean, Cattaraugas county, New York, 270 miles from its mouth in the Ohio, 600 feet above the level of the river at Pittsburgh, 1,280 feet above the level of the ocean, and 2500 miles from the Gulf of Mexico. The Monongahela rises in Virginia, and where it unites with the Alleghany, is more than 400 yards wide. It is navigable at a good stage of the water for large boats, 100 m. from its mouth. The Alleghany, though not larger than the Monongahela at the junction, is the more important stream. Immediately below the junction, the Ohio is over 600 yards wide, and is a placid and beautiful stream. At Pittsburgh it is 680 feet above tide water; at the mouth of the Muskingum, 541 feet; at the mouth of the Scioto, 464 feet; at Cincinnati, 414 feet; at its mouth in the Mississippi, 300 feet. Its length from Pittsburg to its mouth, according to the Western Pilot, is 959 miles; but the distance in a direct course is about 614 miles. Its average descent is not quite five inches in a mile. The French called it *la belle riviere*, or the beautiful river; but its name, according to Heckewelder, is derived from the Indian word Ohiopekhanne, meaning a very white stream, alluding to the white caps with which its gentle surface in a high wind, omitting all but the first part for the ease of pronunciation. The Ohio for some distance below Pittsburg is rapid, and the navigation interrupted at low water, by chains of rock extending across the bed of the river. The scenery is exceedingly beautiful though deficient in grandeur, exhibiting great sameness. The hills, two or three hundred feet high, approach the river and confine it on either side. Their tops have usually a rounded and graceful form, and are covered with the verdure of an almost unbroken forest. Approaching Cincinnati, the scenery becomes still more monotonous. The hills recede from the river, and are less elevated. Heavy forests cover the banks and limit the prospect, but exhibiting a beautiful verdure, and often exuberant with blossoms. The river exhibits the same scenery as we continue to descend it, except that the hills become less bold and rocky. Many villages and farm houses are passed, through the whole course of the river; but as the bottom lands on its immediate margin are liable to be overflowed, the inhabitants prefer to settle a little back from the river, so that the dwellings in view do not correctly exhibit the population in the vicinity. Between Pittsburg and the mouth of the Ohio there are as many as one hundred considerable islands, besides a great number of sand bars and tow-heads. These last are low, sandy islands incapable of cultivation, and covered with willows. Some of the islands are of exquisite beauty, and furnish desirable situations for a retired residence. The principal tributaries of the Ohio are the Muskingum, Great Kanawha, Big Sandy, Scioto, Great Miami, Kentucky, Green, Wabash, Cumberland, and Tennessee. The last three are the most important, of which the last is the largest. One remarkable circumstance respecting the Ohio as well as other western rivers, is its great elevations and depressions. In the summer and autumnal months, it often dwindles into a small stream, affording limited facilities for navigation. Among the hills of Pennsylvania and Virginia, it is seen rippling over chains of rock, through which a passage is barely afforded to boats of the lightest burthen. Farther down, sand bars either extend across the stream or project into the bed of the river. Steamboats are sometimes grounded on the bars, where they are obliged to wait in peril for the periodical rise of the river. The lowest water is generally in the months of July, August, and September. The melting of the snows in the spring, and heavy rains in autumn or winter fill the river to overflowing, and many of its islands and the bottoms on its margin are covered with water. These rises are generally gradual and attended with no danger. As the waters rise, trade and navigation are quickened into activity; the largest steamboats, often of 600 tons burthen, now float in security. The average rise of the water from low water mark, is 50 feet, but in the year 1832 an extraordinary flood was experienced. The river began to rise early in February, and on the 18th of that month it was 63 feet above low water mark, and the lower parts of Cicinnatti and Covington were flooded. The river here is 1006 feet wide, and the velocity of the stream at its heighth, 6¼ miles per hour. The water discharged by the rise of the river above low water alone, would fill a lake of one square mile in surface, 107 feet deep in one hour. The surface drained by the Ohio and its numerous tributaries is about 77,000 square miles, and water 4 inches in depth on this surface would be sufficient to maintain the river at the above heighth and velocity for fourteen days. Such a flood as this has scarcely been known since the first settlement of the country. There are no considerable falls in the river, excepting at Louisville, Kentucky, where it descends 22½ feet in the course of two miles. Even over these, boats pass in high water. But they have been obviated by a canal around them, which admits of the passage of the largest steamboats. The current of the Ohio is very gentle; at the mean heighth of the river the current is about 3 miles an hour, at high water it is more, but at low water not more than two miles. During five or six weeks in the winter, the navigation is obstructed by floating ice. The Ohio and its tributaries have not less than 5,000 miles of navigable waters. The following distances have been derived from the Western Pilot, and are doubtless correct. From Pittsburg to Steubenville, O., is 70 miles: to Wheeling, Va., 92 miles; to Marietta, O., 174 miles; to Gallipolis, O., 264¾ miles; to Porstmouth, O., 349 miles; to Maysville, Ky., 397 miles; to Cincinnati, O., 455½ miles. to Lawrenceburg, Ia., 479½ miles; to Louisville, Ky., 587 m.; to New Albany, Ia., 591 miles; to the mouth of the Cumberland river, Ky., 900 m.; mouth of Tennessee river, Kentucky, 911½ miles; mouth of Ohio, 959 miles.

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* The navigable portion of this distance is from the Gulf to the Mouth of the Yellow Stone river, thirty-three hundred miles. We were under the impression that this was the greatest nacigable "inland sea" in the world, but if the Report of Mr. Breeze to the Senate on the Railroad to the Pacific be relied upon in all particulars, we have presented to us in Asia a river which overtops ours, and dwarfs it in the comparison. We make an extract: "The Yang-tse-keang has its source in the Peling Mountains of Thibet. After an immense distance in a southerly direction it enters the Chinese empire in north latitude about 28°, then it winds its way through the richest parts of China and the most numerous population of any part of the globe, crossing the vast empire, and after having accommodated by its tributaries, its lakes, its vast and numerous windings, its intersections by canals almost the entire empire, and after drawing together on the grand canal at Ching-Kyang-foo the vast productions, commerce and resources of the greater part of this vast empire, gently rolls itself into the ocean in north latitude about 31°, just in front of the great city of Chang-hae, the port open for foreign commerce, being in length more than four thousand miles, and navigable even into Thibet."

The free and uninterrupted navigation of these great inland waters must of course be a matter of prime interest to the country. They are to the populous nations on their banks as the ocean itself, over which commerce and not kings preside. No construction of State powers as contra-distinguished from federal, can exclude these arteries of trade from the pale of government regard and protection. They are points of national concern. No State or alliance of States can apply the remedies which their exigences require. No narrowed views of economy and retrenchment, no prospective expenditure, however vast, could be allowed to deter the legislature of the Union from approaching the solemn act of duty which is involved here.

We have not space at this moment to advert to the various schemes which have been presented and urged for the improvement of this western navigation, but shall be happy on some other occasion to do so. The remaining sheets of our paper will be rather occupied with some reflections upon the "Passes of the Mississippi," which conduct its great waters into the gulf, the proposed methods of improving their depth and navigation and of securing safety to the immense shipping seeking outlet and egress here.

The mouths of the Mississippi have been undergoing incessant changes so far as our records extend, and we might add, so far as the history of the river can be traced. Old channels have been filling up and new ones forming; at the same time that a continued sedimentary deposit has forced the delta itself constantly to encroach upon the sea. The depth of water afforded in these channels has never been equal to the requisitions of commerce, and it is only by dint of the most enormous application of steam power, and ploughing through deep beds of sand that the largest class of ships are enabled to navigate the channel. Considerable expense is always incurred in this manner, and delays prejudicial to trade. We have known of a ship, the Coromandel, in one instance, grounded in the Pass thirty-nine days. Could it be expected otherwise than that these impediments should be greatly detrimental to the interests of the whole valley having this common outlet?

In 1720, of all the Passes, the *south* one only was in use. A Report amongst the French Colonial Records, now in Paris, of date about 1730, gives the depth from ten to twelve feet on the bars, varying each year according to the violence of the winds, etc. Another Report by M. Paria gives a depth of seventeen feet to one of the Passes which had hitherto been but twelve feet only, and argues that twenty-two feet might be ensured by dregs. The employment of two vessels three months in the year, was tried during a portion of this time by the West India Company, but it worked badly. "A *flute* was then placed inside of the bar and sunk into eighteen feet by means of wells built for that purpose, inside such vessel and filled up with water. This vessel was placed close to the bank of the bar for the purpose of receiving the cargoes of vessels that could not cross. It was soon perceived that the flute, receiving the whole power of the current, was forcing a passage of twenty-five feet through the Pass. The whole matter was immediately communicated to government."*

Examined before the Committee on Commerce of the Legislature, in March, 1846, William D. Talbot, a resident of the Balize for twenty-five years, used the following language:

> "The bars at the various Passes change very often. The channels sometimes change two or three times in a season. Occasionally one gale of wind will change the channel. The bars make to seaward every year. The South-west Pass is now the main outlet. It has been so for only three years, as at that time there was as much water in the North-east Pass as in it. The South-east Pass was the main ship channel twenty years ago—there is only about six feet water in that Pass now, and where it was deepest then there is only a few inches of water at this time. The visible shores of the river have made out into the Gulf two or three miles within his memory. Besides the deposit of mud and sand, which form the bars, there frequently arise bumps or mounds near the channel, which divert its course. These bumps are supposed to be the production of salt springs, and sometimes are formed in a very few days. They sometimes rise four or five feet above the surface of the water. He knew one instance, when some brick that were thrown overboard from a vessel outside the bar, in three fathoms water, were raised above the surface by one of these banks, and were taken to the Balize and used in building chimneys. In another instance, an anchor which was lost from a vessel, was lifted out of the water, so that it was taken ashore. About twenty years ago a sloop, used as a lighter, was lost outside the bar in a gale of wind; several years afterwards she was raised by one of these strange formations, and her cargo was taken out of her."

Lieut. Poole, of the United States Engineers, in his Report of Feb. 8, 1847, remarks, "great changes have taken place in the last fifteen years in this (the South-east) and the North-east Pass, which has been deepening while this has been filling up." It is stated where the island shown upon sheet No. 3 now is, there was at that period six fathoms water.. The process seems to be still going on. The space between this island and Antonio being nearly covered by a shoal the centre of which is already above water. During a few days that two ships were lying aground on the middle bank of the South-west Pass, in eight feet water, a channel formed between them through which a ship of *sixteen feet draught* passed out without obstruction!*

The project of deepening or improving these outlets has been for a long time before the General Government, and special reports upon the subject prepared by the engineer service after extended surveys.

Three methods have been principally insisted upon with different degrees of merit and expense:

1st. To deepen by dredging machines one or two of the Passes.

2nd. To close up all but one of them where they leave the river trunk.

3rd. To cut a canal from the river to the gulf.

All of these are regarded practicable. Supposing the first and second adopted together, Capt. Chase estimates the expense as follows to give sufficient depth of water:

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* See Analysis of French Documents in vol. I. Commercial Review.

Dredging N. E. Pass, - - - - -	$160,000
Do. S. W. Pass, - - - - - -	210,000
	$370,000

with an annual subsequent expenditure of $72,000 more.

Closing the Passes, - - - - -	$214,500
Jette at N. E. Pass, - - - - -	100,000
Jette at S. W., - - - -	182,500
Contingencies, &c.,	30,000
	$527,000

The line of the ship canal is proposed from a point two and a quarter miles below Fort Jackson, and extending seven miles to the shore of the Gulf, and thence by a jette, 1760 yards to 30 feet water. The canal to be 100 feet wide at top, and thirty feet deep. The cost of this magnificent work is estimated thus:—

For the lock and guard work, - - -	$ 300,000
For trunk of the Canal, - - - - -	2,669,333
Jettes and Breakwater, - - - -	2,463,996
Channel between, - - - - - -	3,420,000
Contingencies, - - - - - -	1,146,671
	$10,000,000

Whether this amount be held too vast for an annual commerce departing or entering the river now of $100,000,000, is a question we shall not take time to solve. Of the practicability of such a canal there can be no doubt. If we are content to leave unimproved the channel of the river, private enterprize will find a harbor for our commerce at some other point than the levee of New Orleans. Ship Island may afford such a one for the heaviest tonnage, and a railroad locomotive be substituted for the laborious "tow."

The subject of pilotage over the bars of the river, has for a long time excited deserved interest in Louisiana and also in contiguous States. A history of this question would not be out of place here, particularly as from late developements it would hardly seem to be settled.

At the cession of Louisiana to the United States, a monopoly of the pilotage was in the hands of one Ronquile, appointed under the Spanish crown. This man was succeeded by two others who bought out his establishment and amassed a fortune in the course of a few years. The duties of these pilots were performed by deputies, common sailors picked up in the city, and the fees allowed were two dollars a foot with certain other perquisites.

The law of 1805 empowered the governor to appoint two or more sufficient persons to be branch pilots. Unlimited competition was the result. The master and wardens of New Orleans were, constituted a board of examination for pilots.

The Act of 1837, now of force, introduced a revolution in the system. The governor appoints under it not exceeding fifty branch pilots, who are to be citizens of the United States, and have resided two years in Louisiana; examined by a board of examiners, and recommended by it to the master and wardens of New Orleans, and by them to the Executive. This board of examiners to be from the pilots themselves, and consist of three members. Each pilot to give bond in the sum of one thousand dollars. Deputy pilots are forbidden, and none but a branch pilot shall conduct the business. The rate of pilotage upon all vessels indiscriminately, is fixed at $3,50 per foot without other charge whatever.

Against this system a protest has been made by the New Orleans Chamber of Commerce, and a committee of the Legislature charged during last year with the subject, after severe investigation and examination of a large number of witnesses selected from the pilots, the ship and tow-boat captains, ship owners, and merchants, presented a report which lies before us upon the table.

The committee support the present system against those that preceded it or are proposed in its stead, and furnish a beautiful and graphic sketch of the country which has been redeemed under its influence, and of the domestic life and condition of those who are employed in the pilot service. We make no apology for a lengthened extract from the Report, which, taken together with the two engraved views we are enabled in the present number to present, will give no inadequate notion of the region known as the Balize in the beginning of the present century and now.

Your Committee have ascertained to their entire satisfaction, that every system that had ever been in force in this State, from the cession of Louisiana to the passage of the act of March 13th, 1837, had proved a total failure. Whether as regards the interests of commerce, the advancement of social order, or the behests of morals and civilization, they had one and all fallen short of the ends and purposes of their creation.

On this point your Committee have taken ample and unbroken testimony, without a dissenting voice. The whole evidence shows that, from the existence of the State as a portion of the confederacy, up to the year 1837, the pilot service was negligently performed, and more especially were the persons engaged in it, as a body, a desperate, worthless, reckless class of men. The Balize, during that period, was a scene of barbarous strife and drunken debauch.

Your Committee have been informed by witnesses of unblemished character, who have resided at the Balize, both before and after the passage of the act of 1837, that anterior to that law it was a mere mud bank, whose natural loathsomeness was made more intolerable by the beastly scenes enacted there. Riots and broils were daily exhibitions, and low revelry and debauches the pastimes of the night. It was a place dangerous to visit: the savageness of man invested the desolation of nature with appalling attributes. The Balize is located upon the margin of the Mississippi, a short distance above the North-east Pass; in front the river flows sullenly; all around is a prairie overgrown with the rank luxurience of the tropics; the waters of the gulf in daily tides cover the face of the earth round about, many miles; there is not a tree, nor a mound, nor a monument of any sort, unless placed there by the hand of man, to relieve a monotony that oppresses the beholder. The land itself is but a recent acquisition from the ocean, wrenched thence by the great father of rivers. This dreary and inhospitable vision, was the first that greeted the stranger approaching our shores from the seaward; and it is appalling to reflect, that the character of the people who dwelt there and held appointments from the State, was yet more savage than the scene that surrounded them, and impressed the mind with ideas of our national qualities, as gloomy as the opinions such a spectacle might inspire of the natural features of our country.

It was not surprising that your predecessors endeavored to remodel a system, or systems, under which the vestibule of the State was thronged by the worst description of men. Nor is there wanted a reason, why they, who approached our shores, to find themselve amid a class of men more dangerous than the deep they had escaped, made an outcry against the laws that encouraged or could not repress their outrages. Nor was it possible for a service, requiring sober, discreet and intelligent men, to be conducted properly by such as spent their lives in daily broils and midnight wassail.

The experiments to infuse respectability and character into the pilot service resulted in the act of the 13th March, 1837. The effect of that act, the committee will endeavor to explain in as brief a space as possible; and in this connection, they will also attempt to point out the peculiar provisions of the law which in their opinion have more than others, brought about the change that has been so beneficial and apparent.

Shortly after the passage of the act of 1837, the pilots selected under it formed themselves into an association for their better governance, and the more prompt and efficient discharge of their duties. It will be seen that the act provided that there should be no deputy pilots; every person in the association was, therefore, a full branch pilot, and the equal of his compeers. The immediate effect of this provision, was the elevation of the character of the pilots as men. There was no inequality between them—no superiors—no inferiors; every man who had heretofore occupied a subordinate sphere of life was raised in his own esteem. He was no longer a menial; his responsibilities were increased, and with it his dignity and self-respect.

The association was founded upon the broadest principles of equal rights. The business of the company was placed under the superintendence and control of a principal, and board of directors, or rather executive committee. The by-laws regulating these appointments made them elective by the pilots in commission, and so limited the periods of service, and arranged the terms of re-eligibility, as to secure to each, in his turn, a share in the administration of the affairs of the association. The salutary influences of this system were soon manifested, in a total change in the habits, manners and morals of the Balize; order succeeded confusion; soberness of living followed the scenes of riot and debauchery, before prevalent; and the growth of social amenities rooted out the wild and poisonous weeds which had sprung in that hot-bed of vice and profligacy.

Another change more remarkable, but perhaps equally natural, was wrought by the act, in the domestic relations of the pilots. It was a rare thing to see a married woman at the Balize, during the existence of the ancient systems, which were overthrown in 1837. Upon the disappearance of stews, lewd resorts and places of public drinking, more sedate and rational views of life supplanted the savage and guilty notions that had so long swayed the conduct of the pilots; and that provision of the law which made members of their own body a board of examiners, giving to them the right to select their own associates, and in a good measure to purge the Balize of the worthless characters who might otherwise infest it, emboldened them to take wives to themselves, and perfect the reform by adding the claims of domestic connections to the inducement to a well regulated social organization.

The change produced by these combined influences, upon the morals of the Balize, is scarcely credible. It has been snatched like a brand from the burning—a diviner spirit has breathed upon it—a more exalting appreciation of the duties of citizenship has possessed its inhabitants. They have become fathers of families; children have

> grown up around them, whose prattle awakens other emotions than those that night revels and brawdy songs once stirred within them. Nor do they stop here. They have established a public school to educate these children for the duties of republicans. They have built up a reading room for the improvement of themselves as well. They have established a police there, too, to suppress disorder. The characteristics of the place are peace, order, progress. The abode of vice, lawlessness of profligacy, has been redeemed, and consecrated to the humanizing influences of the age—education, moral culture, and habits of industry, sobriety and economy.
>
> The change in the physical features of the Balize is not greatly less obvious than in its moral qualities. A village of comfortable and convenient houses has sprung up like bright exhalations. A narrow strip of ground, fronting neat dwellings, has been wrested from the returning tides. By small additions, such as could be made in the intervals between the claim of duty, they have formed an embankment for the purposes of horticulture. The earth forming this artificial batture, has been taken from the depths of the river. It is the product of years of labor. Each residence has a parterre before it; and here the matrons of the Balize and their daughters spend their leisure in beautifying the blasted desolation of nature. A more imposing instance of the power of law, when exerted for the dignity of man—for his protection, for the conservative instincts of our species, can no where be found. That there should be now a well-ordered society in this once sink of iniquity; that domestic virtues should hallow the abode of profligacy; that children should be pointed the ways of wisdom, where yet a little while the stern and formed character of men could not resist the force of abasing example; that flowers should be taught to grow upon a waste, where lately a vertical sun and the waters of the ocean held alternate dominion; that religion, peace and order should reign over a spot cursed with inhospitalities, and terrible from the depravity of its inhabitants, is a triumph which the law may boast, which civilization may rejoice over, which the State may claim as all her own.
>
> In the benefits of these ameliorations, commerce has also participated, for a more intelligent class of persons are brought to its assistance. It is in proof that the pilot service has been better conducted since 1837 than it ever was before—a proposition which scarcely required proof, unless it were doubtful whether sober, industrious, competent and respectable men are more capable of discharging responsible duties than sots and sea-loafers.

The following facts were elicited from witnesses in the course of examination before the Committee:—There are forty-seven pilots now enrolled. The full compliment of fifty has almost always been secured. A pilot boat is ever stationed at the South-west Pass, and cruizes southward and eastward; the South-west Pass came into use in 1830, previously the South-east was the main channel; four other boats cruize from the North-east Pass. Boats with five or six pilots remain at sea until they have all taken ships. The gulf coast is extensive and complicated; sun often seen only through fogs faintly for months at a time, pilots guide then by soundings and their knowledge of bottoms. The population of the BALIZE is 300 to 350. There are at the SOUTH-WEST PASS 60 or 70 more. Mortality from various causes very great. In eleven years seventy or eighty boat-keepers or pilots have been drowned, killed or have died. Within thirty-one years every man at the Balize has died,—every human being pilot or not pilot. The Association of Pilots have in their employ ten apprentices, receiving each from twenty-five to thirty dollars per month. The average annual distributable share of each pilot for the last six or seven years, has been $1,634 90. The salaries of towboat captains reach as high as $2,000.

The evidence for the good order, faithfulness, decorum, and entire efficiency of the pilot service is unanimous. The Vice President of the Chamber of Commerce, W. L. Hodge, Esq., declared that he was not aware of any neglect, as represented in certain petitions, and that he had refused such petitions when presented to him. The objections of witnesses go to other matters,—to the constitution of the Board of Examiners, to the alleged monopoly and excessive rate of charges. The evidence on the last point is various. Some are for maintaining the system as it is, many for a very considerable reduction; nearly all would advocate a reduction on vessels drawing less than ten or twelve feet. The pilots themselves admit the propriety of this last reduction, and advocate it as being more beneficial to themselves as well as to trade. Doubtless the proper modification will be made.

The total expense of pilotage is estimated by Mr. Hodge as one-tenth of one per cent. on the whole commerce of the Mississippi with the sea. What it is in other cities we have no information, nor what it

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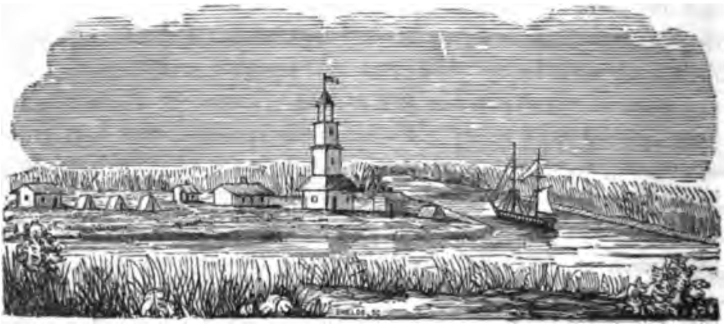
[*] Major Stoddard who took possession of Louisiana for the United States in 1804, and resided five years afterwards in the State, makes these remarks upon the Balize.

"The Mississippi near its confluence with the sea is divided into five branches, and of course has its *embouchure* in the Gulf by means of five mouths. These are denominated the North East, South, South East, and South West Passes. They are from three to nine miles in length, and furnish a depth of water for the largest ships except upon the bars. The East Pass, called the Balize, has about seventeen feet of water on the bar, and is the one usually navigated. The South Pass was formerly of equal depth, but is now, 1805 or 1806, gradually filling up. The South West Pass has from 11 to 12 feet water. The North East and South East Passes are traversed only by small craft. On the south side of the East Pass, about three miles from the bar, is the pilot house, a framed look-out house, about sixty feet high, *where several men reside.* They make use of row boats, and seldom venture out to sea except in good weather."

The subjoined sketch, handed us by an old merchant, Maunsel White, Esq., may be regarded faithful, and agrees very nearly with the description of Major Stoddard



Balize in 1804.

was under previous systems in Louisiana; but if the present number of pilots is necessary to conduct our commerce, and the evidence to the contrary is not sufficient; if these pilots must be permanently located far out from civilization, in the most inhospitable, cheerless, and desolate country imaginable; if homes and the rudest comforts of homes, are to be *created* there despite of the elements themselves, and every supply of physical wants must be had from markets a hundred miles away; if exposure and privation of all kinds must be endured, and no other revenue derived than $1,600 a year to each family, when wages and salaries for all descriptions of labor are fifty to one hundred per cent. higher than in other places, we cannot yield easily to the conviction that the fortunes of these pilots of the Balize are much to be envied after all, and the commerce of the West likely to be materially affected by their exactions.

However, we have glided unwittingly into this subject, and would forbear. Let those settle who have vexed and mooted it and who are more interested, and may be better informed than ourselves. Either side is entitled to a fair hearing, and we have contented ourselves with the investigations which have been *officially* made. The point is convenient to terminate our article.

* * *

FOREIGN COMMERCE AND AGRICULTURE.

1.—Russian Principles of Trade.

In a work written by Golovine, a Russian subject, and translated into English by Henry Colburn, we learn the state of things existing in this great Empire. The passage in relation to trade we give as of general interest in a historical point of view, though a more liberal protective system has since been substituted for the *prohibitory*.

"The Russian government merely confines itself to securing manufacturers against all foreign competition, which causes them to persevere in their apathy and incapacity. To protect three or four thousand Russian manufacturers, it imposes annoying privations and excessive expense on millions of consumers; and, in spite of this factitious protection, the Russian manufacturers cannot compete with those of other countries. The raw materials, workmanship, living, are five times as cheap in Russia as in England, and, notwithstanding this immense advantage, Russian manufactured goods are fifty and one hundred per cent. dearer than those of English production. Foreign manufacturers are not easily tempted to settle in Russia, though capitals there yield double and treble what they produce in other countries. The cause of this is the insecurity of property, the deplorable state of legislation and the judicial system, and the little consideration which persons engaged in the pursuits of industry enjoy either with the government or in the public opinion."

2.—England and her Colonies.

From a late report of the Chamber of Commerce of Jamaica on the sugar duties question in England, as the same might effect the future cultivation in the British

West India Colonies, we make a few extracts; showing the opinions which prevail in relation to Colonial Empire, and the means of maintaining it.

"And so valuable were Colonies considered as elements for promoting the power and prosperity of the State, and sugar Colonies especially, that from the Earl of Chatham's time the policy has constantly been of a tendency to increase the Colonial Possessions of Great Britain, and to deprive other nations of theirs.

"Many circumstances concurred to render that policy eminently successful, and the stupendous Colonial Empire of Great Britain has never been equalled by any nation, whether ancient or modern.

"To that Empire Great Britain owes her present exalted station, and to that Empire must she look for its preservation, and for the preservation of the many advantages she possesses over other nations; and woe to her when through rejection of the blessings that have been showered upon her, she contemptuously casts from her the props of her greatness.

"The intercourse with her Colonies furnishes the means for rearing a numerous body of hardy and experienced seamen, always at hand to man their country's fleets, and assert her rights.

"But unless her Colonies are productive—unless they are stocked with inhabitants, by whose industry her merchant ships are loaded, and by whose expenditure her artisans and manufacturers are kept employed, how could the Colonies subserve to that paramount object—the contributing to the nurseries for seamen which merchant ships supply?

"Unless ships carry goods to the Colonies, and return loaded with their productions to the mother-country, Colonies would be worse than useless to her. Then, indeed, would it no longer be insane, if not treasonable, to decry the Colonies as clogs rather than as contributing to the nation's power and prosperity.

"But as it is undeniable that the Colonies have contributed, and always will contribute, largely towards maintaining the rank which the mother-country holds among nations, it scarcely required the stern rebuke of the Minister, who, to silence those short-sighted politicians that would depreciate their Colonies in the eyes of the British people, told them, that unless they were prepared to see the nation reduced to a second-rate Power, their Colonial Empire must be maintained.

"The value of the Colonies to Great Britain may be estimated by considering them—

"1st. As constituting naval stations and military posts in every part of the globe.

"2nd. As contributing to maintain her naval supremacy.

"3rd. As affording employment to her artisans and manufacturers, through their own consumption, and through the means they afford for promoting the sale of British goods to the foreign nations in their vicinity, especially during a period of war.

"4th. As the means by which the people of England have been regularly and abundantly supplied, as well with articles of the first necessity, as with those considered less so, but yet contributing greatly to the comfort and happiness of a people.

"5th. As preserving the British people, by such supply, from either depending wholly on foreigners for articles even of the first necessity, to obtain which they might eventually have to give gold, or be compellec to dispense with them, and consequently with those other articles which contribute to the comfort and happiness of man."

3.—TRADE OF THE BRITISH NORTH AMERICAN COLONIES.

In the August number of that valuable English work, "Simmonds' Colonial Magazine," we have a contrast exhibited of the respective progress made since 1784 by the British Colonies and the United States, which, it will be seen is much more favorable to the Colonies than could be supposed or easily credited, though the statistics of the United States, upon which it is founded, are not altogether correct.

"Now, these figures (collected carefully from the sources of information mentioned underneath, and from others) show that the increase of the Shipping of the North American Colonies since 1784 has been nearly tenfold, while that of the United States has been only fourfold; that the population of these Colonies, "the thews and sinews" of production and enterprise, has increased in the same period tenfold, while that of the United States has only increased threefold.

"Under the head of Imports, it is true that the United States have increased about forty-fold, and of Exports more than 120 fold—while we can only count an increase in the former of about nine, and in the latter of about seventeen times. But compare the range of Export and Import in the one case and the other. From 1784, to the present time, our neighbors have had the free range of the world, going and coming; while the Colonies, until comparatively a very recent period, were confined to the trade with the mother-country, and with the other Colonies; and even in the West India market they had to encounter the competition of the Americans, whose greater proximity and cheaper outfit gave them an advantage Again, it is to be remembered, that in 1784, when the comparison begins, the Americans started in the world with double the population—four times the shipping, six times the import trade, and more than four times the export trade, than the Colonies then had; so that the ratio of increase was not only greater at the outset, but went on increasing by a kind of compound geometrical progression. And, lastly, there was, and is, this important difference and disadvantage to our North American Colonies, that their whole maritime coast line presented but three or four accessible ports suitable for commerce, and that Canada, the principal Colony, is winter-locked six months in the year, while the whole American coast, from Machias to New Orleans, broken and indented with multiplied bays, harbours, rivers and inlets, is open at all seasons, studded long since with the populous seats of a busy commerce, which had planted itself as early as 1784 in at least ten of the principal positions it now holds."

4.—COTTON TRADE OF GREAT BRITAIN.—1806—1846.

IMPORTS OF COTTON INTO GREAT BRITAIN FOR 41 YEARS.

	1806.	1807.	1808.	1809.	1810.	1811.	1812.
American,	124,939	171,267	37,672	160,180	246,759	128,192	95,331
Brazil,	51,034	18,981	50,442	140,927	142,846	118,514	98,704
East India,	7,787	11,409	12,512	35,764	79,382	14,646	2,607
W. India, &c.	77,978	81,010	67,512	103,511	92,186	64,879	64,563
Packages,	261,738	282,667	168,138	440,382	561'173	326,231	261,205
	1813.	1814.	1815.	1816.	1817.	1818.	1819.
American,	37,720	48,853	203.051	166,077	199,669	207,580	205,161
Brazil,	137,168	150,930	91,055	123,450	114,518	162,499	125,415
East India,	1,429	13,048	22,357	30,670	120,202	247,659	184,259
W. India, &c.	73,210	74,800	52,840	49,235	44,872	50,991	31,300
Packages,	249,536	287,631	369.303	369,432	479,261	668,729	546,135
	1820.	1821.	1822.	1823.	1824.	1825.	1826.
American,	302,395	300,070	329,906	452,538	282,371	423,446	395,852
Brazil,	180,086	121,085	143,505	144,611	143,310	193,942	55,590
Egyptian,				5,624	38,022	111,023	47,261
East India,	57,923	30,095	19,263	38,393	50,851	60,484	64,699
W. India, &c.	31,247	40,428	40,770	27,632	25,537	31,988	18,188
Packages,	571,691	491,678	533,444	668,797	540,092	820.883	581,950
	1827.	1828.	1829.	1830.	1831.	1832.	1833.
American,	646,776	444,390	463,076	618,527	608,887	628,766	654,786
Brazil,	120,111	167,362	159,536	191,468	168,288	114,585	163,193
Egyptian,	22,450	32,889	24,739	14,752	38,124	41,183	3,893
East India,	73,738	84,855	80,489	35,019	76,764	109,298	94,698
W. India, &c.	30,988	20,056	18,867	11,721	11,304	8,490	13,646
Packages,	894,063	749,552	746,707	871,487	903,367	902,322	930,216

	1834.	1835.	1836.	1837.	1838.	1839.	1840.
American,	733,528	763,199	764,707	844,812	1,124,800	814,500	1,237,500
Brazil,	103,646	143,572	148,715	117,005	137,500	99,300	85,300
Egyptian,	7,277	43,721	34,953	41,193	29,700	33,500	38,000
East India,	89,098	117,965	219,493	145,174	107,200	132,900	216,400
W. Ind, &c.	17,485	22,796	33,506	27,791	29,400	36,000	22,300
Packages,	951,034	1,091,253	1,201,374	1,175,975	1,428,600	1,116,200	1,599,500

	1841.	1842.	1843.	1844.	1845.	1846.
American,	902,500	1,013,400	1,396,800	1,246,900	1,499,600	932,000
Brazil,	94,300	87,100	98,700	112,900	110,200	84,000
Egyptian,	40,700	19,600	48,400	66,700	82,000	59,600
East India,	273,600	255,500	182,100	237,600	155,100	49,500
W. India, &c.	32,900	17,300	17,700	17,500	8,800	9,000
Packages,	1,344,000	1,392,900	1,744,100	1,681,600	1,855’700	1,134,100

5.—Commercial Character of the Chinese.

From the lecture delivered in New York by Mr. Williams, we learn that the Chinese are the greatest traders in Asia. The tonnage upon their waters is greater than in all the world besides. In one view, before a single city, 175,000 ton of craft have been seen at a time. Opposite Pekin is a tier of three miles of boats, and 140,000 tons; before Canton there are 80,000 tons. The main traffic is in provisions. Taxes are paid on them; and for their transport the great canal was built. Imports are free of duty; but excise is collected all along the rivers, generally moderate, and little evaded. The ports were thrown open a hundred years ago, but, on the death of the Emperor, closed again. The foreign trade of Canton is conducted in the English language. In that city 4,000 persons speak it—learned by rote. Five-sixths of the exports are in teas, &c., &c. The other articles, raw and manufactured silks, cassia, sugar, alum. carved and lacquered ware, matting, camphor, drugs, vermillion, crockery, fans and sundries. Export of bullion nearly equal to that of tea. It is supposed that ninety-five millions of dollars have been drained from the Empire: twenty-one millions for the treaty with England, six millions for the ransom of Canton, and the remainder for opium.

The imports are cotton, opium woollen and cooton flannels, lead, iron, tin, cuttlery, ginseng, watches, pearls, birds' nests, biche-de-mer, betel nut, rattans, furs, rice, dyewoods and sundries. Cotton and opium are the principal. The demand for coarse cotton goods is fast increasing. They have a bounty upon the importation of rice. The total import and export trade of China is equal to one hundred and twenty millions of dollars, two-thirds of which is carried on by the English. The import of pearls is estimated at about one-third of a million of dollars. The trade is principally in the hands of the Parsees, descendants of the ancient Guebres of Persia. Rattans are again exported in the form of baskets, &c. Glassware, mirrors, Prussian blue, red and white lead, clocks, brass ware and bronze ware they make.

6.—Mexican Agriculture—Cohahuila.

The Province of Cohahuila bounds on the South bank of the Rio Grande. As it is not improbable that in the settlement of Mexican difficulties this Province may be included in our territory, we furnish a few particulars from a late writer in that country. The products are corn, sugar and cotton. The last may be profitably grown. Sugar promises well. The inhabitants run the syrup into moulds, without graining it. Two crops of corn are raised in a year; grows to a great height, and yields easily over 50 bushels to the acre. Wheat is profitably cultivated. Oats and rye are not grown in Mexico. All descriptions of vegetables grow well. Oranges are abundant, but sour. The agricultural implements used in Mexico are of the rudest possible fashion; the ploughs similar to those used by the Romans, two thousand years ago; efforts to introduce those from the United States have not succeeded. The stone corn-mill is identical with that used by the Indians at the conquest. Every other article of husbandry is on a par. How is this fine region blessed in all things but in men.

AMERICAN COMMERCE.

1.—Tariff for Americo-Mexican Ports.

The President of the United States has proclaimed tariff of duties over all the ports conquered by our arms in the present Mexican war. The ports on the Gulf of Mexico, as well as on the Pacific, are thrown open to all nations, except Mexico. Vessels entering, to have manifest of cargo, under penalty. Tonnage duty of $1 per ton. American vessels only to conduct the coasting trade, paying, however, the regular duties. The following goods are contraband—powder, gun-cotton, saltpetre, lead, sulphur, brimstone, cannon, swords, and all other implements of war; steel in every form, except in bars of less than one inch square. Goods brrught into the United States, from any ports or places in Mexico, chargeable with duty in the United States; but no drawback allowed on exports from any such Mexican ports.

We will take some other occasion to publish the particulars of this tariff, which would occupy more space than we can command now. It will, doubtless, influence great trade in that quarter, and although much criticised in many particulars, we doubt whether it is not as good as any which could have been prepared under the circumstances—taking it all in all. To levy contributions thus upon the enemy is a wise policy. So "King Commerce" promotes the empire of peace, and mitigates the savage ferocities of war.

2.—DISASTERS AT SEA—1846.

The Sailors' Magazine is authority for the following Catalogue of Shipwrecks during 1846, principdlly on our coast.

	AMERICAN.	BRITISH.	FRENCH.	ALL OTHER.	TOTAL.
Ships,	28	27	1	8	64
Barks,	18	28	5	10	61
Brigs,	73	29	1	25	129
Schooners,	168	17		9	194
Sloops,	17			16	33
Steamers,	6			3	9
	310	101	7	71	490

Number of lives lost by these—535. Twenty-seven vessels still missing.

3.—PORTS OF ENTRY IN THE WEST.

The act of Congress, 1831, allowed goods imported into Wheeling, Cincinnati, Pittsburgh, Louisville, St. Louis, Nashville and Natchez, duties being secured and paid at those places, on due entries of the goods at New Orleans. Since the adoption of the Warehousing Bill, the Secretary of the Treasury has adopted the following important regulations:

"First. All merchandise imported directly from any foreign port via New Orleans, and destined for St. Louis, or either of the other ports enumerated in the act of 2d of March, 1831 must, in pursuance of this act, be entered, and the duties ascertained and bonded for, at New Orleans. Such merchandise, however, need not be requested to be actually deposited in warehouse at New Orleans, but may, on permit being granted by the Collector and Naval Officer of said port, be laden on board of a steamboat or other vessel, destined for either of the ports mentioned in the act of 2d March, 1831, and be landed and warehoused thereat.

"Second. In pursuance of regulations applicable specially to the ports referred to, heretofore established, bonds to secure said duties may be executed by the importers of goods residing at either of the ports in question, in anticipation of the arrival at New Orleans of any goods ordered from a foreign port, and transmitted with proper schedules of said goods to the Collector of the Port aforesaid, who will certify on said bonds the amount of duties ascertained at New Orleans to be payable on said imports. These bonds must be transmitted by the Collector to the Surveyor of the Port for which the goods may be destined, to be retained in the possession of said Surveyor as security for the duties on said goods while in warehouse, and to be paid and cancelled when the goods shall have been duly entered for consumption."

4.—BANKING SYSTEM OF THE UNITED STATES.

In 1832 the Secretary of the Treasury was requested to report to Congress such information within his reach as related to the Banking System of the Union. The Secretaries, during the remainder of Gen. Jackson's administration and Mr. Van Buren's, complied with the requisition. It afterwards lay dormant, until revived by Mr. Walker, the present year.

BANKS OF THE UNITED STATES.

	Circulation.	Deposites.	Total.
1830	$61,323,898	$55,559,928	$116,889,826
1834	94,819,570	75,666,986	170,506,556
1385	303,692,495	83,081,365	186,773,860
1836	140,301,038	115,104,470	255,405,478
1837	149.186,890	127,397,185	276,583.075
1838	116,138,910	84,691,184	200,830,094
1839	135,170,995	93,240,146	225,414,141
1840	116,572,790	76,573,582	193,146,372
1841	167,290,214	64,890,101	172,180,345
1842	83,734,011	62,408,870	146,142,881
1843	58,563,608	56,168,623	114,732,231
1844	75,167,646	84,550,785	159,718,431
1845	89,608,711	88,020,646	177,629,357

According to Returns nearest to January 1.

	1843.	1845.	1847.
Number of banks making returns,	577	580	591
Number of branches,	114	127	124
Whole number of Banks and branches,	691	707	
Capital paid in,	$228,861,948	206,045,969	203,070,622
RESOURCES—			
Loans and discounts,	254,544,937	288,647,131	310,282,945
Stocks,	38,380,050	20,356,070	20,150,000
Real Estate,	22,826,807	22,177,270	21,219,865
Other Investments,	13,343,599	10,082,466	12,206,112
Due by other banks,	20,666,264	29,619,272	31,788,641
Notes of other banks,	13,306,617	12,040,760	13,112,467
Specie Funds,	6,578,375	6,786,026	13,789,780
Specie,	33,515,806	44,241,142	35,132,516
LIABILITIES—			
Circulation,	58,563,608	89,608,711	105,519,766
Deposites,	56,168,623	88,020,646	91,792.533
Due to other banks,	21,456,523	26,337,440	28,539,889
Other Liabilities,	7,357,033	5,853,902	4,706,077
Aggregate of Circulation and Deposites,	114,732,231	177,629,357	
Aggregate of Immediate Liabilities,	135,188,754	203,966,797	
Aggregate of Immediate Means,	74,067,062	92,687,300	

REGULATIONS POST OFFICE, MARCH, 1847.

A deputy postmaster may frank two ounce letters, if on post office business, and so marked. Postmasters whose salaries are under $200, may frank or receive free *private letters* under half ounce. Members' Congress privileges extend from 30 days before to 30 days after session, as to letters under two ounces, and public documents under three pounds. Vice President, Secretaries Senate, and House, have similar privileges during office. Newspapers not sent from publisher's office, printed circulars, &c., to pre-pay three cents postage. Letters to different persons, if in same envelope, incur penalty of $10 except directed to foreign countries. Letters under an ounce to the army in Mexico, *free* during the war. Postmasters cannot receive more than $2,000 for box rents. Commissions for postmasters from 40 to 12½ per cent. on amount received at their offices.

SOUTHERN AGRICULTURE.

1.—THE SUGAR CROP OF LOUISIANA, ETC.

The COMMERCIAL REVIEW has spared no pains in the collection of information from all sources upon sugar; important to the planter, and the legislator. It is one of the great aims of this work, and as such we may be allowed to say, should commend it to every planter in this State as well as in Texas. It was stated to us a hundred times over by the most intelligent planters from all directions at the Baton Rouge Agricultural Convention, that our article by Mr. Benjamin, had added immensely to the wealth of Louisiana. We were cheered on all sides by these marks of favor. One gentleman declared that by the study of that article he would realize several thousand dollars himself. Surely with such endeavors we have a right to claim the support of the whole planting interest.

Our labors for the future will be more systematic in this direction. The present paper upon "Sugar Manufacture" by Mr. Stone, in our pages, will open new views, and such are our arrangements that in every number of the work the present year there will be new, interesting and valuable matter upon the subject, viewed in every possible point of view. There are hundreds of sugar planters whose names are not yet upon our books. Shall this be so? We ask those of our subscribers if it shall?

But to the point before us. We have spoken before of the reduced sugar crop of Louisiana the present year. The crop of East Baton Rouge is estimated at 4222 against 4474 last year; of Iberville, 7800 against 13,810; Point Coupee, 2199 against 1206; Ascension, 4114 against 8927; St. James, 6263 against 9764; St. John, 2048 against 4690; St. Charles, 3511 against 5973; Jefferson, 2961 against 5358; West Baton Rouge 5928 against 4961. We have already given several other parishes.

One thing, too, our statistics show the rapid increase of new estates, viz., in West Baton Rouge 15; East Baton Rouge 5; Iberville, 16; Point Coupee, 14; Ascension 4; St. James, 2; St. Johns, 1; Jefferson, 3; all in the period of one year. Will gentlemen in the other parishes complete our statistics?

A pamphlet quoted in the New York Courier and Enquirer estimates the sugar crop of the world in 1847, being greatly too high for Louisiana, thus:

	Tons.
British West Indies,	140,000
Marititus,	50,000
Bengal, etc.,	80,000
French Colonies,	80,000
Dutch and Danish West Indies,	25,000
Cuba and Porto Rico,	200,000
Java,	95,000
Siam, Manilla, China. etc.,	30,000
Brazil,	100,000
Louisiana,	100,000
Beet Root,	85,006
Total in tons,	1,045,000

Largest previous crop, 900,000 tons.

2.—OUR GREAT STAPLE—COTTON.

A friend in Mobile, George G. Henry, Esq., sends us a copy of the Register and Journal, containing a valuable contribution upon the subject of "Cotton," from the pen of *A Merchant*. Whoever this Merchant is, we should be glad to have him occasionally grace our pages. At present we analyze his views.

The wealth of Great Britain is boundless, and her capacities as a purchaser. Her people have lent to government £800,000,000 at an interest *now* of about one and a half per cent. They subscribed for £100,000,000 in railroad stock. Their agricultural product is estimated at £227,771,548; mineral, £27,000,000; manufacturing, greatly over £131,750,000, £35,000,000 being of cotton. The commerce of Great Britain reaches in exports, £145,725,865, and in imports £73,547,788.

The British demand for cotton is of stern necessity; it clothes and employs millions of her people, and strengthens government itself. The stock on hand there January, 1837, was 546,000 bales. She can receive from the Indies, Brazil, etc., etc., not more than 260,000 bales; the receipts thence last year being 252,000 bales, declining yearly. The supply of the United States in 1847 cannot exceed 1,827,000 bales, including 93,000 of old stock. Of this supply there will be consumed at home 475,000 bales; in 1846 it was 442,597, greatly increasing. In France and on the continent, 700,000 bales. There had been shipped and received on board before January, 1847, 82,000 bales of this crop and of old stock. The amount of these several items is 135,500 bales, which deducted from total supply, will leave for British purchasers from us 520,000 bales, (they took in 1845, 1,499,594 bales,) and for British manufacturers but 1,326,000 bales from all sources whatever.—They consumed in 1845, 1,574,304 bales.

In estimating the crop at 1,730,000 bales, 700,000 being given to New Orleans against 1,037,194 last year; 310,000 to Mobile against 421,966; 130,000 to Florida against 141,184; Atlantic States, 590,000 against 490,000. This diminished crop is the result of, first, low prices and diversion of capital to other pursuits; second, internal improvement; third, emigration to Texas to raise grain and stock; fourth, conversion of cotton into sugar lands in Louisiana; fifth, reduced productiveness of cotton lands; to which might have been added destruction by worms.

Having dismissed our Mobile Merchant, it is not inappropriate to fill the rest of our page with a few facts in the history of cotton, referring our readers to a full and elaborate paper by ourselves in the Commercial Review for April, 1846. The cotton plant was introduced into the United States about 1770: previous imports from East Indies. There are about fifty varieties; four or five principally in use. Green seed first introduced; second, Bourbon; third, the Sea Island, from Bahamas; fourth, Mexican. Cotton is much influenced by climate, and will degenerate or improve.

"Until 1826" says an authority "South Carolina was the largest cotton growing State. Subsequently Georgia took the lead, till 1840, when Mississippi became the largest cotton growing State in the Union, producing no less than 193,000,000 of pounds. Georgia stood next, and yielded 163,000,000. Louisiana came in third, and raised 152½ millions. Alabama stood fourth, and raised 117,000,000. South Carolina, from having been the first, came in as fifth, and produced 61¾ millions. North Carolina as seventh, and raised 52,000,000. Tennessee as the eighth, and raised 27½ millions. Florida came in ninth, and produced 12,000,000. Arkansas as tenth, and produced 6,000,000. Maryland as eleventh, and raised 5,000,000. Virginia as twelfth, and made 3,000,000. Missouri made 691,000 pounds. Illinois 121,000 pounds, and Kentucky 2,000 pounds. Since the annexation of Texas, her exports have been included in those of the United States."

PRICES FAIR UPLAND COTTON IN LIVERPOOL.

1814, average	28d.	1825, average,	11½d.
1815, "	20½	1826, "	6¼
1816, "	18¼	1827, "	6¼
1817, "	20	1828, "	6¼
1818, "	20	1829, "	5¼
1819, "	18½	1830, "	6⅛
1820, "	11½	1831, "	5⅝
1821, "	9½	1832, "	6⅝
1822, "	8¼	Nov. 1, 1833,	8⅝ to 8⅞
1823, "	8⅛	Dec. 11, 1846,	5½ " 7
1824, "	8½	Dec. 24, 1846,	5¼ " 7½

3.—SOUTHERN ENTERPRIZE.—SILK.

T. H. Chivers, of Georgia has invented what he entitles a "*Throwsting Mill,*" for winding silk from the cocoons, spinning it into thread, doubling and twisting it, all at the same time, a thing hitherto regarded impossible, and so proclaimed by M. d'Homergue, whose book on the culture of silk was published in the United States by order of Congress in 1830. The inventor of this curious instrument remarks:—

"As sewing silk is the *ne plus ultra* of the silk business, or, in other words, as the making of sewing silk is the *perfection* of silk, such a machine will prove of infinite value to the State of Georgia. This machine is portable, and can be managed by any one possessing the least mechanical ingenuity. The expense of each mill will be from twenty-five to fifty dollars, perhaps less. I have not yet ascertained what it will cost to have one built, as the one which I invented I made with my own hands, every part of it

He adds, there is no part of the world better adapted to raising silk than Georgia. He has himself a million of eggs for the season. In 1766 the State sent 20,000 lbs. of raw silk to England. The United States imports $15,000,000 a year in silk.

The subject of silk culture and manufacture is one that shall receive particular attention by the Review hereafter. We are in expectation of an elaborate and able article on the subject by a gentleman of New York of extensive practical acquaintance with it, and the Hon. E. Barke of the Patent Office, has in a spirit of courtesy and great public spirit, tendered whatever information his office affords, now very considerable, in the preparation of the article.

4.—The Cotton Culture.

A thousand theories are given about the catterpilar, and fanciful modes of expelling them proposed. We gave one in our last number, about applying fire, not that we considered it praticable or founded upon correct basis, but only to show what a variety of views are advocated. We notice a review of these in a Baton Rouge paper, from Philip Winfree, which is highly complimentary to ourselves and to our valuable contributor, Mr. Abbey of Mississippi, whose articles have been copied all over the South. The writer has some interesting passages. What he says about resting soils is worthy of notice:—

"All lands ought to be rested, or the articles cultivated ought to be changed. No land will bear cultivation, *ad infinitum*, of the same plant. I have manured perhaps more than any cotton planter in the State, and the cheapest and best mode of manuring and retrieving I have found, was to plant and cultivate a crop of Guinea corn, (a grain very similar to the Egyptian corn,) and to throw out the ground for twelve months, allowing stalks, blades, and roots to rot on the ground. Of these there will be a large quantity which will not enrich the land, but add considerably to the quantum of the soil, a circumstance that ought to be attended to, for flat as our grounds are, they wash a good deal while under cultivation. The crop made will be large, and more valuable than Indian corn for feeding to horses, oxen, or poultry. The year after the ground is thus fallowed, it will be in fine order for Indian corn, cotton, sugar cane, or anything else.

* * *

AMERICAN STATES AND CITIES.

1.—The Resources of Arkansas.

It would please us to be better informed in relation to this prosperous country. It is rich in mineral productions of iron, coal, gypsum, and salt, and is well adapted to cattle raising. In the eastern parts, the climate is regarded unhealthy, but genial in the middle and western parts. It was made a Territory in 1819, and a State in 1836. Population in 1840, 97,534, probably now 150,000. A late Arkansas paper remarks:—

"A glance at the map will show that the means of communication to every portion of our State, afforded by the Mississippi on the east, the Red River on the south, and the Arkansas, White, St. Francis, and Ouachita, which, with their numerous tributaries, extend in almost every direction within her territory, give her facilities for the transportation of her produce which are not to be equalled in any other State in the Union. Her mineral resources are incalculable, and the discoveries which are daily being made must soon attract the attention of capitalists. One item of information in relation to the discovery of gold in White county, has come to our knowledge within a few days. A gentleman brought into town a short time since some specimens of the ore, from one pound of which twenty-five grains of pure metal were extracted by the simple process of fusion. The iron trade is is destined, at some future day, to occupy a prominent place in the industrial pursuits of our citizens. Inexhaustible quantities of this mineral are found in almost every portion of our State, and many of the deposits are of the finest quality in the world, yielding on analysis, ninety per cent. of the pure metal. Coal is abundant. At the junction of the Petit Jean with the Arkansas, near the bank of the first named river, are very extensive coal hills, where, with the expenditure of a small amount of capital, a large and lucrative trade in the mineral might be commenced. A large bed of fine coal was discovered a few days since, on the Ouachita, near Rockport.

2.—Commerce of Wilmington, N. C.

Wilmington is a point of some interest, being that of steamboat connection with Charleston in the conduction of the great mail service of the North and South. It is situated on the East side of Cape Fear River, thirty-five miles from the Ocean, and is the most populous city in North Carolina. Its population was in 1840, 4,744. The harbor admits vessels of 300 tons, but is obstructed by shoals. It is surrounded by rice lands.

The commerce of Wilmington, according to the "Commercial," amounts to about $2,500,000, within three-fourths of a million of the whole banking capital of the State.

TABLE OF EXPORTS, WILMINGTON, March, 1846, to March, 1847.

Spirits turpentine	56,199 bbls.	Rice	2,489 casks
Raw	22,741	Rough Rice	73,810 bush.
Rosin	131,573	Pea Nuts	38,300 bush.
Tar	27,908	Cotton	3,689 bales
Pitch	5,005	Yarn	2,568 bales
Timber	1,069,059 feet	Sheeting	2,492 "
S. S. Lumber	24,752,655	Rags	246 "
River "	4,002,814	Feathers	48 "
Shingles	5,552,900	Tobacco	280 hhds.
Staves	310,700	Beeswax	91 "

Silver Ore, 268 pigs.

3.—NORTH CAROLINA.—Gov. Graham, Nov. 1846, gives the following in relation to the landed property of the State: "In the year 1815 the aggregate value of the lands of the State assessed for taxation under the law of Congress, was $53,521,513. But in the year 1836 the whole quantity of land listed for taxation, was valued at only $39,136,108. To correct this criminal delinquency in enlistment and valuation, the Act of 1836 directed a new assessment of lands and improvements, by means of which the same subjects of taxation in the next year was raised in value to $51,021,317. This valuation, is, however, defective, since it falls two and a half millions of dollars below that of 1815, although more than a million and a half of acres of land had been patented in that time.

SOUTH CAROLINA.—The total indebtedness of this State on the 30th September, 1845, was $3,235,502 31, which has been somewhat reduced since that period, according to the last message of Governor Aikin.

5.—THE CITY OF GALENA.

We must so dignify already this remarkable town. It was first settled in 1828, and is about three miles from the Mississippi, on a little stream called the Fever or Bean River. The town was laid out in 1829. It increased with great rapidity, according to Bradford; miners pressed in from all sides, and it became at once the metropolis of the lead region. It is on the side of a steep hill and contains two streets parallel with the river. The foundations of the houses on the second being on a level with the roofs of the first. The lower street always presents the appearance of a large and thronged city. It exports more than any other point on the Mississippi, above St. Louis, and is likely to be the capital of that romantic north-west region. Its lead export has increased from 463,400 in 1841, to 672,420 pigs, 1846, being worth about $2,225,000. Export of copper about $22,000, lumber $100,000, hides, $14,000, wheat, 150,000 bushels; flour sold in Galena, 1845, 10,000 barrels. In 1844 there were 308 steamboat arrivals of 53,900 tons, in 1846, 333 of 58,275 tons.

6.—MERCHANTS' EXCHANGE AND MERCHANTS' ASSOCIATION, CINCINNATI.

We take the following from a most interesting report published and forwarded to us by one of the members. We should be delighted to have more particulars. Our friends in Cincinnati are far in advance of their neighbors in New Orleans. Enterprize, however, stays northward.

"The collection of commercial statistics was deemed second only in importance to the establishment of hours of 'Change, and has abundantly justified the continuance of this department. Careful registers have been kept of the imports and exports to and from the city by the river, canals, and railroad; of the arrival and departure of steamboats; of the markets, for demand and supply; of arrivals at the principal hotels, etc.; all of which has been constantly accessible to the examination of subscribers, and furnished an abstract from the Exchange books to each of the daily papers. The Exchange Department in this Association has been considered the nucleus only of a future and permanent Merchants' Exchange, and as such has received the fostering care of the successive boards of directors. Its organization has from year to year been maintained at the expense of no small degree of watchfulness and personal exertion, and it had at the time of its transfer accumulated a mass of statistical information, invaluable as the basis of safe and accurate tables of the laws of trade, and a proper appreciation of the growing commerce of the city. The publication of these statistics, while it served the legitimate purpose of the Exchange establishment, has re-acted favorably on the general prosperity, and to the certain knowledge of the Directory, has awakened and attracted attention abroad to the extraordinary commercial advantages concentrating in Cincinnati."

INTERNAL IMPROVEMENTS.

1.—Southern Railroads in Projection.

It is our intention to keep a regular record of these. A public meeting has been held at Pensacola to connect that town with Montgomery, the future capital of Alabama, and thus draw in that direction to the gulf an immense trade. The cost of such a road is estimated at two millions of dollars. In our last number we gave some particulars of Pensacola; at this moment we have nothing definite about Montgomery.

The citizens of Charleston are about appointing delegates to a convention in North Carolina for constructing a railroad from Wilmington to some point of the Charleston and Augusta railroad. This is much talked of, and is the only link now wanted in the great chain of northern and southern roads. The distance would be about one hundred and forty miles over a level country. Such a road would prove very profitable.

Whilst upon the subject of southern railroads, let us not fail to pay a tribute to the high and distinguished services of Col. Gadsden, of South Carolina. He has been the life of all these movements, and their pioneer. With extraordinary practical ability and indomitable perseverance, his services can never be estimated too high. Devoted to the cause of the State and of the South, he is ever ready to sacrifice himself in their service. We remember him at Memphis, as the centre of great interest and attention. He was singled out by general consent, and with one voice, as the man of action and ability, and placed in the most important posts, which he did not solicit. His was not a visit of pleasure, but of unremitting toil by day and by night, through the sittings of the Convention. It was impossible, even in that great crowd, not to single out and admire the man.

However, it is not our wont to be personal, and we were only led into this fault now by reading in the National Intelligencer a similar tribute. In speaking of Mr. Whitney's Oregon railroad the paper continues: "It is pronounced a *gigantic* and *sublime* enterprise—as something genius-like and novel—in face of the fact that long anterior to Mr. Whitney's communications the subject of a railway to the Pacific was presented to public consideration by Col. Gadsden, President of the South Carolina Railroad Company. In a report made by him at the Memphis Convention, he noticed the enterprise as one not only practicable, but in the progress of time as certain of execution. In his annual report for 1845 to the stockholders of the South Carolina company he again presented the subject, accompanied with a map, exhibiting the intimate relation between the route of road as suggested by him, and those now completed and in progress through the different States of the Union."

2.—Internal Improvements by Government since 1805.

The following have been the amounts of appropriations made for this purpose by Congress:

1806,	$48,400	1823,	$32,920	1831,	$926,312	1839,	$60,500
1810,	60,000	1824,	175,000	1832,	1,225,008	1841,	75,000
1811,	50,000	1825,	176,712	1833,	1,159,452	1842,	100,000
1812,	30,800	1826,	284,253	1834,	1,641,622	1843,	230,000
1815,	100,000	1827,	398,451	1835,	1,352,243	1844,	696,500
1816,	10,000	1828,	1,020,121	1836,	1,837,520	1845,	50,000
1817,	4,000	1829,	608,560	1837,	1,768,219		
1818,	317,990	1830,	672,506	1838,	2,087,044		$17,199,223

EDITOR'S TABLE.

Among the works handed us during the past month we would notice the following:—

The Castle of Ehrenstein, by James, from J. B. Steel. This, like the other productions of its gifted author, blends all the attractions of romance with the truth of historical narrative. In this age of infinite romance making, we are not apt to underprize anything really excellent.

Newman's Southern Eclectic Series of School Books, in four parts, from D. Baker and Co., Camp street, New Orleans. This edition of school books in gradual progression from the elements of the language, has many claims upon the public, and we are quite sure that the examination of teachers and parents would result in the same conviction. Now that education is so much talked about through our State, let it be seen to that proper school books are not neglected.

Dolbear's Science of Penmanship. Chirographic Atlas.—The Messrs. Dolbear have been known for many years in our community as public instructors in the useful and important art or science of penmanship. Hundreds of students have every year attested their merits. We have ourselves examined the specimens executed by their pupils in different stages of instruction, and been surprised by the results. A more natural method of teaching could not be used. If it were not for being read out of the order of the editorial corps, or of that other profession to which we belong, whose special privileges are to make hieroglyphics, we know of none we would prefer visiting to the Messrs. Dolbear.

Through the kindness of Lieutenant Maury, at Washington, we have received the late reports of the Secretary and of Messrs. Bache and Jenkins, on the *Light House* system, with a great number of charts, which will be very valuable to us. The report on the *Coast Survey,* we regret to mention, was lost in the mail, so that we still find ourselves without it. Lieutenant Maury also sent us sometime ago the valuable astronomical work prepared by him for the use of Government.—One of the noblest monuments of our science yet.

Through Mr. BURKE, of the Patent Office, we have received a portion of the report of that office for the past year. From MR. LA SERE, several documents upon sugar. From Hon. ZADOC PRATT, of New York, an agricultural address delivered by him, with the promise of an article upon the "Leather Business." From Hon. ABBOT LAWRENCE, of Massachusetts, a number of State documents on agricultural and manufacturing industry, and on the new town of Lawrence, which, like others of New England, has sprung up as it were almost by enchantment. From Col. GADSDEN, the last valuable report of the South Carolina Railroad Company.

Several articles have been received by us on different interesting subjects, which will receive attention as soon as space will admit. Some others are promised, of which we are greatly desirous, viz.: "*Our Policy with the Indians;*" "*The Resources and Statistics of Virginia;*" "*The Industry, &c., of North Carolina.*" (We see our friend in Wilmington is making arrangements for a complete article, by his note in the Commercial.) "*The Trade of Charleston;*" "*The Industry of South Carolina;*" "*Land Communication from the Mississippi to California,*" *&c., &c.*

Shall we not be allowed to make our work a repository of all valuable practical information, and as the South and West seem now to be in earnest motion, will not a generous co-operation be afforded us?

THE
COMMERCIAL REVIEW
OF THE
SOUTH AND WEST.

ESTABLISHED JANUARY 1, 1846.

J. D. B. DE BOW, EDITOR AND PROPRIETOR

VOLUME III. JULY, 1847. NUMBER VI.

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☞ *The* INDEX *to the present Vol. will be published in the next number.*

THE

COMMERCIAL REVIEW.

VOLUME III.] JUNE, 1847. [NUMBER VI.

Art. I.—ROMANCE OF LOUISIANA HISTORY.*

POETRY is the daughter of imagination, and imagination is, perhaps, one of the highest gifts of heaven, the most refined ethereal part of the mind, because when carried to perfection, it is the combined essence of all the finest faculties of the human intellect. There may be sound judgment, acute perceptions, depth of thought, great powers of conception, of discrimination, of research, of assimilation, of combination of ideas, without imagination, or least without that part of it which elaborates and exalts itself into poetry, but how can we conceive the existence of a poetical imagination in its highest excellence, without all the other faculties? Without them, what imagination would not be imperfect or diseased? It is true that without imagination there may be a world within the mind, but it is a world without light. Cold it remains, and suffering from the effects of partial organization, unless by some mighty fiat imagination is breathed into the dormant mass, and the sun of poetry, emerging in the heaven of the mind, illumines and warms the several elements of which it is composed, and completes the creation of the intellect.

Hence the idea of all that is beautiful and great is concentrated in the word poetry. There is no grand conception of the mind in which that intellectual faculty which constitutes poetry is not to be detected.

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* The present article comprises the substance of an address delivered by the Hon C. Gayarre, before the People's Lyceum, at New Orleans, in April last, and now first committed to print.

What is great and noble, is and must be poetical, and what is poetical must partake, in some degree or other, of what is great and noble. It is hardly possible to conceive an Alexander, a Cæsar, a Napoleon, a Newton, a Lycurgus, a Mahomet, a Michael Angelo, a Canova, or any other of those wonderful men who have carried as far as they could go, the powers of the human mind in the several departments in which they were used, without supposing them gifted with some of those faculties of the imagination which enter into the composition of a poetical organization. Thus every art and almost every science has its poetry, and it is from the unanimous consent of mankind on this subject that it has become so common to say "the poetry" of music, of sculpture, of architecture, of dancing, of painting, of history, and even the poetry of religion, meaning that which is most pleasing to the eye or to the mind, and ennobling to the soul. We may therefore infer from the general feeling to which I have alluded, that where the spirit of poetry does not exist, there cannot be true greatness; and it can, I believe, be safely averred, that to try the gold of all human actions and events, of all things and matters, the touchstone of poetry is one of the surest.

I am willing to apply that criterion to Louisiana, considered both physically and historically; I am willing that my native State, which is but a fragment of what Louisiana formerly was, should stand or fall by that test, and I do not fear to approach with her the seat of judgment. I am prepared to show that her history is full of poetry of the highest order and of the most varied nature. I have studied the subject *con amore*, and with such reverential enthusiasm, and I may say with such filial piety, that it has grown upon my heart as well as upon my mind. May I be able to do justice to its merits, and to raise within you a corresponding interest to that which I feel! To support the assertion that the history of Louisiana is eminently poetical, it will be sufficient to give you short graphical descriptions of those interesting events which constitute her annals. Bright gems they are, encircling her brows, diadem-like, and worthy of that star which has sprung from her forehead to enrich the American constellation in the firmament of liberty.

Three centuries have hardly elapsed, since that immense territory which extends from the gulf of Mexico to the lakes of Canada, and which was subsequently known under the name of Louisiana, was slumbering in its cradle of wilderness, unknown to any of the white race to which we belong. Man was there, however, but man in his primitive state, claiming as it were, in appearance at least, a different origin from ours, or being at best a variety of our species. There, was the hereditary domain of the red man, living in scattered tribes over that magnificent country. Those tribes earned their precarious subsistence chiefly by pursuing the inhabitants of the earth and of the water; they sheltered themselves in miserable huts, spoke different languages, observed contradictory customs, and waged fierce war upon each other. Whence they came none knew; none knows, with absolute certainty, to the present day, and the faint glimmerings of vague traditions have afforded little or no light to penetrate into the darkness of their mysterious origin. Thus a wide field is left open to those dreamy speculations of which the imagination is so fond.

Whence came the Natchez, those worshippers of the sun with eastern rites? How is it that Grecian figures and letters are represented on the earthen wares of some of those Indian nations? Is there any truth in the supposition that some of those savages whose complexion approximates most to ours, draw their blood from that Welsh colony which is said to have found a home in America, many centuries since? Is it possible that Phœnician adventurers were the pilgrim fathers of some of the aborigines of Louisiana? What copper-colored swarm first issued from Asia, the revered womb of mankind, to wend its untraced way to the untenanted continent of America? What fanciful tales could be weaved on the powerful Choctaws, or the undaunted Chickassaws, or the unconqnerable Mobiliens! There the imagination may riot in the poetry of mysterious migrations, of human transformations; in the poetry of the forests, of the valleys, of the mountains, of the lakes and rivers, as they came fresh and glorious from the hand of the Creator, in the poetry of barbaric manners, laws and wars. What heroic poems might not a future Ossian devise on the red monarchs of old Louisiana! Would not their strange history, in the hands of a Tacitus, be as interesting as that of the ancient barbarian tribes of Germany, described by his immortal pen? Is there in that period of their existence which precedes their acquaintance with the sons of Europe, nothing which, when placed in contrast with their future fate, appeals to the imagination of the moralist, of the philosopher, and of the divine? Who, without feeling his whole soul glowing with poetical emotions, could sit under yonder gigantic oak, the growth of a thousand years, on the top of that hill of shells, the sepulchre of man, piled up by his hands, and overlooking that placid lake where all would be repose, if it were not for that solitary canoe, a moving speck, hardly visible in the distance, did it not happen to be set in bold relief, by being on that very line where the lake meets the horizon, blazing with the last glories of the departing sun? Is not this the very poetry of landscape, of Louisianian landscape?

When diving into the mysteries of the creation of that part of the southwestern world which was once comprehended in the limits of Louisiana, will not the geologist himself pause, absorbed in astonishment at the number of centuries which must have been necessary to form the delta of the Mississippi? When he discovers successive strata of forests lying many fathoms deep on the top of each other; when he witnesses the exhumation of the fossil bones of mammoths, elephants, or huge animals of the antediluvian race; when he reads the hieroglyphic records of Nature's wonderful doings, left by herself on the very rocks, or other granite and calcareous tablets of this country, will he not clasp his hands in ecstacy, and exclaim, "Oh! the dryness of my study has fled; there is poetry in the very foundation of this extraordinary land!"

Thus I think that I have shown that the spirit of poetry was moving over the face of Louisiana, even in her primitive state, and still pervades her natural history. But I have dwelt enough on Louisiana in the dark ages of her existence, of which we can know nothing, save by vague traditions of the Indians. Let us approach those times where her historical records begin to assume some distinct shape.

On the 31st of May, 1539, the bay of Santo Spiritu, in Florida, presented a curious spectacle. Eleven vessels of quaint shape, bearing the broad banner of Spain, were moored close to the shore; one thousand men of infantry, and three hundred and fity men of cavalry, fully equipped, were landing in proud array under the command of Hernando De Soto, one of the most illustrious companions of Pizarro in the conquest of Peru, and reputed one of the best lances of Spain! "When he led in the van of battle, so powerful was his charge," says the old chronicler of his exploits, "so broad was the bloody passage which he carved out in the ranks of the enemy, that ten of his men at arms could with ease follow him abreast." He had acquired enormous wealth in Peru, and might have rested satisfied, a knight of renown, in the government of St. Jago de Cuba, in the sweet enjoyment of youth and of power, basking in the smiles of his beautiful wife, Isabella de Bobadilla. But his adventurous mind scorns such inglorious repose, and now he stands erect and full of visions bright, on the sandy shore of Florida, whither he comes, with feudal pride, by leave of the king, to establish nothing less than a marquisate, ninety miles long by forty-five miles wide, and there to rule supreme, a governor for life, of all the territory that he can subjugate. Not unmindful he, the christian knight, the hater and conqueror of Moorish infidelity, of the souls of his future vassals; for, twenty-two ecclesiastics accompany him to preach the word of God. Among his followers are gentlemen of the best blood of Spain and of Portugal: Don Juan de Guzman, Pedro Calderon, who, by his combined skill and bravery, had won the praises of Gonzalvo de Cordova, 'yclept "the great captain;" Vasconcellos de Silva, of Portugal, who for birth and courage knew no superior; Nuno Tobar, a knight above fear and reproach; and Muscoso de Alvarado, whom that small host of heroes ranked in their estimation next to De Soto himself. But I stop an enumeration which, if I did justice to all, would be too long.

What materials for romance! Here is chivalry, with all its glittering pomp, its soul stirring aspirations, in full march, with its iron heels and gilded spurs, towards the unknown and hitherto unexplored soil of Louisiana. In sooth, it must have been a splendid sight! Let us look at the glorious pageantry as it sweeps by, through the long vistas of those pine woods! How nobly they bear themselves, those bronzed sons of Spain, clad in refulgent armour! How brave that music sounds! How fleet they move, those Andalusian chargers, with arched necks and dilated nostrils! But the whole train suddenly halts in that verdant valley, by that bubbling stream, shaded by those venerable oaks with gray moss hanging from their branches in imitation of the whitening beard of age. Does not the whole encampment rise distinct upon your minds?

The tents with gay pennons, with armorial bearings; the proud steed whose impatient foot spurns the ground; those men stretched on the velvet grass and recruiting their wearied strength by sleep; some singing old Castilian or Moorish roundelays; others musing on the sweet rulers of their souls, left in their distant home; a few kneeling before the officiating priest, at the altar which a moment sufficed for their pious ardor to erect, under yonder secluded bower; some burnishing their arms, others engaged in mimic warfare and trials of skill or strength; De Soto sitting apart with his peers in rank if not in command, and intent upon developing to them his plans of conquest, while the dusky faces of some Indian boys and women in the background express wild astonishment. None of the warriors of that race are to be seen; they are reported to be absent on a distant hunting excursion. But, methinks that at times I spy through the neighboring thickets the fierce glance of more than one eye, sparkling with the suppressed fury of anticipated revenge. What a scene! and would it not afford delight to the poet's imagination, or to the painter's eye?

In two ponderous volumes, the historian Garcillasso relates the thousand incidents of that romantic expedition. What more interesting than the reception of Soto at the court of the Princess Cofachiqui, the Dido of the wilderness! What battles, what victories over men, over the elements themselves, and over the endless obtacles thrown out by rebellious nature! What incredible physical difficulties overcome by the advancing host! How heroic is the resistance of the Mobiliens and of the Alabamas! With what headlong fury those denizens of the forest rush upon the iron clad warriors, and dare the thunders of those whom they take to be the children of the sun! How splendidly described is the siege of Mobile, where women fought like men, and wrapped themselves up in the flames of their destroyed city rather than surrender to their invaders!

But let the conquering hero beware! Now he is encamped on the territory of the Chickassaws, the most ferocious of the Indian tribes. And lucky was it that Soto was as prudent as he was brave, and slept equally prepared for the defence and for the attack. Hark! in the dead of a winter's night, when the cold wind of the north, in the month of January, 1541, was howling through the leafless trees, a simultaneous howl was heard, more hideous far than the voice of the tempest. The Indians rush impetuous, with fire-brands, and the thatched roofs which sheltered the Spaniards are soon on fire, threatening them with immediate destruction. The horses rearing and plunging in wild affright. and breaking loose from their ligaments; the undaunted Spaniards, half naked, struggling against the devouring element and the unsparing foe; the desperate deeds of valor executed by Soto and his companions; the deep-toned shouts of St. Jago and Spain to the rescue; the demon-like shrieks of the red warriors; the final overthrow of the Indians; the hot pursuit by the light of the flaming village;—form a picture highly exciting to the imagination, and cold indeed must he be who does not take delight in the strange contrast of the heroic warfare of chivalry on one side, and of the untutored courage of man in his savage state, on the other.

It would be too long to follow Soto in his peregrinations during two years, through part of Alabama, Mississippi, and Tennessee. At last he stands on the banks of the Mississippi, near the spot where now flourishes the Egyptian named city of Memphis. He crosses the mighty river, and onward he goes, up to the White river, while roaming over the territory of the Arkansas. Meeting with alternate hospitality and hostility on the part of the Indians, he arrives at the mouth of the Red river, within the present limits of the State of Louisiana. There he was fated to close his adventurous career.

Three years of intense bodily fatigue and mental excitement had undermined the hero's constitution. Alas!. well might the spirit droop within him! He had landed on the shore of the North American continent with high hopes, dreaming of conquest over wealthy nations and magnificent cities. What had he met? Interminable forests, endless lagoons, inextricable marshes, sharp and continual conflicts with men little superior, in his estimation, to the brutish creation. He who in Spain was cheered by beauty's glance, by the songs of the minstrel, when he sped to the contest with adversaries worthy of his prowess, with the noble and chivalric Moors; he who had revelled in the halls of the imperial Incas of Peru, and who there had amassed princely wealth; he, the flower of knightly courts, had been roaming like a vagrant over an immense territory, where he had discovered none but half naked savages, dwelling in miserable huts, ignobly repulsive when compared with Castilla's stately domes, with Granada's fantastic palaces, and with Peru's imperial dwellings, massive with gold! His wealth was gone, two-thirds of his brave companions were dead. What account of them would he render to their noble families! He, the bankrupt in fame and in fortune, how would he withstand the gibes of envy! Thought, that scourge of life, that inward consumer of man, racks his brain, his heart is seared with deep anguish; a slow fever wastes his powerful frame, and he sinks at last on the couch of sickness, never to rise again. The Spaniards cluster round him, and alternately look with despair at their dying chieftain, and at the ominous hue of the bloody river, known at this day under the name of the Red River. But not he the man to allow the wild havoc within the soul to betray itself in the outward mien; not he, in common with the vulgar herd, the man to utter one word of wail! With smiling lips and serene brow he cheers his companions and summons them, one by one, to swear allegiance in his hands to Muscoso de Alvarado, whom he designates as his successor. "Union and perseverance, my friends, he says; so long as the breath of life animates your bodies, do not falter in the enterprise you have undertaken. Spain expects a richer harvest of glory and more ample domains from her children." These were his last words, and then he dies. Blest be the soul of the noble knight and of the true Christian! Rest his mortal remains in peace within that oaken trunk scooped by his companions, and by them sunk many fathoms deep in the bed of the Mississippi!

The Spaniards, at first, had tried to conceal the death of Soto from the Indians, because they felt that there was protection in the belief of his existence. What mockery it was to their grief, to simulate joy on the very tomb of their beloved chief, whom they had buried in their camp before seeking for him a safer place of repose! But when, the slaves of hard necessity, they were, with heavy hearts but smiling faces, coursing in tournament over the burial ground, and profaning the consecrated spot, the more effectually to mislead the conjectures of the Indians, they saw that their subterfuge was vain, and that the red men with significant glances, were pointing to each other the precise spot where the great white warrior slept. How dolorously does Garcillasso describe the exhumation and the plunging of the body into the turbid stream of the Great Father of Rivers!

Then comes an Odyssey of woes. The attempt of the Spaniards to go by land to Mexico; their wandering as far as the Rio Grande and the mountainous region which lies between Mexico and Texas, and which was destined, in after years, to be so famous in American history; their return to the mouth of Red River; their building of vessels capable of navigating at sea; the tender compassion and affectionate assistance of the good Cazique Anilco; the league of the other Indian princes, far and wide, under the auspices of the great king, Quigualtanqui, the Agamemnon of the confederacy; the discovery of the plot; the retreat of all the Indian chiefs save the indomitable Quigualtanqui; the fleet of one thousand canoes, mounted by twenty thousand men, with which he pursued the weary and despairing Spaniards for seventeen long days, assailing them with incessant fury; the giving up of the chase only when the sea was nearly in sight; the fierce parting words of the Indians to the Spaniards: "Tell your countrymen that you have been pursued by Quigualtanqui alone; if he had been better assisted by his peers, none of you would have survived to tell the tale;" the solemn rites with which, in their thousand canoes riveted on the water, they, on the day they ceased their pursuit, adored the rising sun and saluted him with their thanksgivings for the expulsion of the invaders; the hair breadth escapes of the three hundred Spaniards who alone out of the bright host of their former companions, had succeeded in fleeing from the hostile shore of Louisiana; their toils during a navigation of ninety days to the port of Panuco, where they at last arrived in a state of utter destitution, are all thrilling incidents connected with the history of Louisiana and replete with the very essence of poetry.

When Alvarado, the Ulysses of that expedition, related his adventures in the halls of Montezuma, Don Francisco de Mendoza, the son of the viceroy, broke out with passionate admiration of the conduct of Quigualtanqui: "A noble barbarian," exclaimed he, "an honest man and a true patriot." This remark, worthy of the high lineage and of the ancestral fame of him who spoke it, is a just tribute to the Louisianian chief, and is an apt epilogue to the recital of those romantic achievements, the nature of which is such, that the poet's pen would be more at ease with it than that of the historian.

One hundred and thirty years had passed away since the apparition of Soto on the soil of Louisiana, without any further attempt of the white race to penetrate into that fair region, when on the 7th of July, 1673, a small band of Europeans and Canadians reached the Mississippi, which they had come to seek from the far distant city of Quebec. That band had two leaders, Father Marquette, a monk, and Joliet, a merchant, the prototypes of two great sources of power, religion and commerce, which, in the course of time, were destined to exercise such influence on the civilization of the western territory, traversed by the mighty river which they had discovered. They could not be ordinary men, those adventurers who, in those days, undertook to expose themselves to the fatigues and perils of a journey through unknown solitudes, from the St. Lawrence to the Mississippi! That humble monkish gown of Father Marquette concealed a hero's heart; and in the merchant's breast there dwelt a soul that would have disgraced no belted knight.

Whether it was owing to the peaceful garb in which they had presented themselves, or to some other cause, the Indians hardly showed any of that hostility which they had exhibited towards the armed invasion of Spain. Joliet and Farther Marquette floated down the river without much impediment, as far as the Arkansas. There, having received sufficient evidence that the Mississippi discharged itself into the Gulf of Mexico, they retraced their way back and returned to Canada. But in that frail bark drifting down the current of the Mississippi, and in which sat the hard plodding merchant, with the deep wrinkles of thought and forecast on his brow, planning schemes of trade with unknown nations, and surveying with curious eye that boundless territory which seemed, as he went along, to stretch in commensurate proportion with the infiniteness of space; in that frail bark, I say, where mused over his breviary that gray headed monk, leaning on that long staff, surmounted with the silver cross of Christ, and computing the souls that that he had saved and still hoped to save from idolatry, is there not as much poetry as in the famed vessel of Argos, sailing in quest of the golden fleece? Were not their hearts as brave as those of the Greek adventurers? were not their dangers as great? and was not the object which they had in view much superior?

The grandeur of their enterprize was, even at that time, fully appreciated. On their return to Quebec, and on their giving information that they had discovered that mighty river of which the Europeans had but a vague knowledge conveyed to them by the Indians, and which, from the accounts given of its width and length, was considered to be one of the greatest wonders of the world, universal admiration was expressed, the bells of the Cathedral tolled merrily for a whole day, and the bishop, followed by his clergy and the whole population, sang a solemn Te Deum at the foot of the altar. Thus, on the first acquaintance of our European fathers with the great valley of the Missisippi, of which our present State of Louisiana is the heart, there was an instinct that told them it was *there*, that the seeds of empire and greatness were sown. Were they not right in those divinations which pushed them onward to that favored spot through so many obstacles? Greatness and empire were *there*, and therefore all the future elements of poetry.

Joliet and Marquette were dead, and nothing yet had been done to take possession of the newly discovered regions of the West; but the impetus was given; the march of civilization once begun could not retrograde; that mighty traveller, with religion for his guide, was pushed onward by the hand of God; and the same spirit which had driven the crusaders to Asia, now turned the attention of Europe to the continent of America. The spell which had concealed the Mississippi amidst hitherto impenetrable forests and, as it were, an ocean of trees, was broken, and the Indians who claimed its banks as their hereditary domain, were now fated to witness the rapid succession of irresistible intruders.

Seven years, since the expedition of Marquette and Joliet, had rolled by, when Robert Cavalier de La Salle, in the month of January, 1682, feasted his eyes with the sight of the far famed Mississippi. For his companions he had forty soldiers, three monks, and the chevalier de Tonti. He had received the education of a Jesuit, and had been destined to the cloister and to become a tutor of children in a seminary of that celebrated order of which he was to become a member. But he had that will, and those passions, and that intellect which cannot be forced into a contracted channel of action. Born poor and a plebeian, he wished to be both noble and rich; obscure, he longed to be famous. Why not? Man shapes his own destinies when the fortitude of the soul corresponds with the vigorous organization of the mind. When the heart dares prompt the execution of what genius conceives, nothing remains but to choose the field of success. That choice was soon made by La Salle. America was then exercising magnetic attraction upon all bold spirits, and did not fail to have the same influence on his own. Obeying the impulse of his ambition, he crossed the Atlantic without hesitation, and landed in Canada in 1673.

When on the continent of America, that fond object of his dreams, La Salle felt that he was in a congenial atmosphere with his temperament. His mind seemed to expand, his conceptions to become more vivid, his natural eloquence to be gifted with more persuasion, and he was acknowledged at once by all who saw and heard him, to be a superior being. Brought into contact with Count Frontenac, who was the governor of Canada, he communicated to him his views and projects for the aggrandizement of France, and suggested to him the gigantic plan of connecting the St. Lawrence with the Mississippi by an uninterrupted chain of forts. "From the information which I have been able to collect," said he to the Count, "I think I may affirm that the Mississippi draws its source somewhere in the vicinity of the Celestial Empire, and that France will be not only the mistress of all the territory between the St. Lawrence and the Mississippi, but will command the trade of China, flowing down the new and mighty channel which I shall open to the Gulf of Mexico." Count Frontenac was seduced by the magnificence of the prospect sketched by the enthusiast, but not daring to incur the expenses which such an undertaking would have required, referred him to the court of France.

To France, then, the adventurer returns with increased confidence; for he had secured one thing, he had gained one point: introduction to the noble and to the wealthy under the auspices of Count Frontenac. The spirit of Columbus was in him, and nothing abashed he would have forced his way to the foot of the throne and appealed to Majesty itself, with that assurance which genius imparts. But sufficient was it for him to gain the good graces of one of the royal blood of France, the Prince de Conti. He fired the prince's mind with his own contagious enthusiasm, and through him obtained from the king not only an immense concession of land, but was clothed with all the powers and privileges which he required for trading with the Indians and for carrying on his meditated plans of discovery. Nay, more, he was ennobled by letters patent, and thus one of the most ardent wishes of his heart was gratified. At last, he was no longer a plebeian, and with Macbeth he could exclaim, "Now, thane of Cawdor, the greatest is behind."

La Salle re-crossed the Atlantic with one worthy of being his *fidus Achates*, and capable of understanding the workings of his mind and of his heart. That man was the chevalier De Tonti, who, as an officer, had served with distinction in many a war, and who afterwards became famous among the Indians for the iron hand with which he had artificially supplied the one which he had lost.

On the 15th of September, 1678, proud and erect with the consciousness of success, La Salle stood again in the walls of Quebec, and stimulated by the cheers of the whole population, he immediately entered into the execution of his projects. Four years after, in 1682, he was at the mouth of the Mississippi, and in the name (as appears by a notarial act still extant) of the *most puissant, most high, most invincible and victorious Prince,* Louis the Great, King of France, took possession of all the country which he had discovered. How his heart must have swelled with exultation, when he stood at the mouth of the great river on which all his hopes had centred; when he unfurled the white banner and erected the stately column to which he appended the royal escutcheon of France, amidst the shouts of his companions and the discharge of fire-arms! With what devotion he must have joined in the solemn *Te Deum* sung on that memorable occasion!

To relate all the heart-thrilling adventures which occurred to La salle during the four years which elapsed between the opening and the conclusion of that expedition, would be to go beyond the limits which are allotted to me. Suffice it to say, that at this day to overcome the one-hundredth part of the difficulties which he had to encounter, would immortalize a man. Ah! if it be true that man is never greater than when engaged in a generous and unyielding struggle against dangers and adversity, then must it be admitted that during those four years of trials La Salle was pre-eminently great. Was he not worthy of admiration, when to the camp of the Iroquois, who at first had received him like friends, but had been converted into foes, he dared to go alone, to meet the charges brought against him by the subtle Mansolia, whose words were so persuasive and whose wisdom appeared so wonderful that it was attributed to his holding intercourse with spirits of another world. How interesting the spectacle! How vividly it pictures itself to my mind! How it would grace the pages of a Fennimore Cooper or of one having the magic pen of a Walter Scott! Methinks I see that areopagus of stern old Indian warriors listening with knit brows and compressed lips to the passionate accusation so skilfully urged against La Salle, and to the prediction that amity to the white race was the sure fore-runner of destruction to all the Indian tribes. La Salle rose in his turn; how eloquent, how pathetic he was when appealing to the better feelings of the Indians, and how deserving of the verdict rendered in his favor!

But the enmity, the ambushes of Indians were not to him the only sources of danger. *Those* he could have stood unmoved! But what must have been his feelings when he became conscious of the poison which had been administered to him by some of his companions, who thought that by destroying him, they would spare to themselves the anticipated horrors of an expedition which they no longer had the courage to prosecute! What his despair was, is attested by the name of "*Creve Cœur*," which he gave to a fort he built a short time after. The fort of the "Broken Heart!" But let us turn from his miseries to the more grateful spectacle of his ovation.

In 1684 he returned to France, and found himself famous. He, the poor boy, the ignoble by birth, for whom paternal tenderness had dreamed nothing higher than the honor of being a teacher in a seminary of Jesuits, was presented to Louis XIV., amidst all the splendors of his court! That Jupiter among the kings of the earth had a smile to bestow upon the humble subject who came to deposit at the foot of the throne the title-deeds of such broad domains. But that smile of royalty was destined to be the last smile of fortune. The favors which he then obtained bred nothing but reverses. Every thing, however, wore a bright aspect, and the star of his destiny appeared to be culminating in the heavens.

Thus a fleet composed of four vessels, was put at his disposal, with all the materials necessary to establish a colony, and once more he left the shores of his native country, but this time invested with high command, and hoping perhaps to be the founder of an empire. That, indeed, was something worth having struggled for! But alas! he had struggled in vain; the meshes of adverse fate were drawing close around him. *Here* is not the place to relate his misunderstandings, degenerating into bitter quarrels with the proud Beaujeu, who had the subordinate command of the fleet, and who thought himself dishonored, he, the old captain of thirty years standing, he the nobleman, by being placed under the control of the unprofessional, of the plebeian, of him whom he called a pedagogue, fit only to rule over children. The result of that conflict was, that Lasalle found himself abandoned on the shores of the Bay of St. Bernard, in 1685, and was reduced to shift for himself, with very limited resources. Here follows a period of three other years of great sufferings and of bold and incessant wanderings through the territory of the present State of Texas, until after a long series of adventures, he was basely murdered by his French companions, and revenged by his body-servant, an Englishman by birth. He died somewhere about the spot where now stands the city of Washington, which owes its foundation to some of that race to which belonged his avenger, and the star-spangled banner now proudly waves where the first pioneer of civilization consecrated with his blood the future land of liberty.

The rapid sketch which I have given shows that so much of Lasalle's life as belongs to history, occupies a space of fifteen years, and is so full of incidents that it affords materials enough for the production of a voluminous and interesting book. But I think that I may safely close my observations with the remark, that he who will write the life of that extraordinary man, however austere his turn of mind may be, will hardly be able to prevent the golden hues of poetry from overspreading the pages which he may pen, where history is so much like romance that, in many respects, it is likely to be classed as such by posterity.

Here I must close this historical sketch; here I must stop on the threshold of the edifice through which I should like to wander with you, in order to call your attention not only to the general splendor, but to the minute perfection of its architecture. Perhaps, at a future period, if your desire should keep pace with my inclination, I may resume the subject, and I believe it will then be easy for me to complete the demonstration that our annals constitute a rich mine, where lies in profusion the purest ore of poetry, not to be found in broken and scattered fragments, but forming an uninterrupted vein through the whole history of Louisiana, in all its varied phases, from the primitive settlement made at Biloxi, to the present time, when she wears the diadem of sovereignty, and when, with her blood and treasure, and with a spirit of chivalry worthy of her Spanish and French descent, and of her Anglo-Saxon adoption, she was the first to engage in the support of that war which, so glorious in its beginning at Palo Alto, Resaca de la Palma, Monterey, and Buena Vista, will undoubtedly have an equally glorious, and I think I may add, a poetical termination in the walls of Mexico!

Art. II.—NEW PRODUCTS FOR THE SOUTHERN COUNTRY.

The Vine.—The Cork.—Camphor and Flax.

The very elaborate, learned and useful treatise on the cultivation of the olive, presented to the South Carolina Agricultural Society by the

Hon. Mitchell King, and noticed in our March number, has suggested to our minds some other products suited to the southern country, that might be cultivated advantageously south of 35° in soils suited to their growth and full development.

And first, the vine will flourish wherever the soil is calcareous and the atmosphere not too moist. In small vineries it is easy to add lime or bone manure, so as to furnish the carbonates and phosphorates this plant requires; but in large vineyards the calcareous principle must be in the soil itself, or the culture rarely succeeds, and even if the vines are reared they produce an inferior wine. If we trace the vine-growing region of Europe, we find the best wines are produced in limestone ranges. Indeed, it is not uncommon to find extensive enclosures surrounding a soil suited to the growth of the grape, within which the wine produced is worth two or three dollars a gallon, while that made from grapes grown immediately outside the walls, although attended with equal care, and manufactured with equal skill, is not worth more than ten or at most twenty cents a gallon. Volcanic soils, from the peculiar salts with which they are impregnated, are likewise well adapted to the culture of the vine. It will be seen, therefore, that before any attempt is made to establish extensive vineyards the soil should be analysed by a competent geologist.

A dry atmosphere is likewise important, for it has been found that where great moisture prevails the foot stalk becomes woody before the fruit matures, and the berries in consequence rot or fall off.

It is not our province or our intention to say anything here of the best method of cultivating the vine. There exist many excellent popular treatises upon the vine which contain abundant information on the subject to which we refer our readers, contenting ourselves with observing, that without judicious trimmings and high manuring, good sound succulent grapes cannot be produced.*

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* The vine is indigenous to Persia, but a product of most temperate climates. It was early introduced into Greece and Italy, and into France by the Phonecians. In North America it was found growing wild, and may be cultivated in most parts south of the 38° of latitude. One of the prominent objects in the colonization of Carolina was the cultivation of the grape, and it was also insisted upon very early in Louisiana, and afterwards in Alabama. See "Locke's Constitution of Carolina," "Martin's Louisiana," "Meeks' Address and Reference to French Colony in Alabama."

Every classical scholar remembers with delight the favorite Falernian and Cecuban wines; the wines of Lesbos and Chios, of which Greek and Roman poets have sung so sweetly, and which they regarded as from the Gods. The vine was cultivated in Britain soon after the invasion of Cæsar, and extensive vineyards existed so late as the time of Richard II. It is now found only in hot houses in that country. Of the native American grapes may be mentioned the Fox Grape, so well known to us, the Little Summer and Chicken Grape, and the Ball Grape. This last is a

The next article to which we would call the attention of the southern agriculturalist is the cork oak, (*Quercus Suber.*) We have never seen this tree in the interior of the south of Europe, but have frequently observed it on the coast of Spain, Portugal and France, stretching out its long branches in a manner that reminded us very much of the live oak plantations of our own maritime States. The tree begins to yield the cork at fifteen years, and continues to produce to a great age. The stripping of bark which is used in manufacturing corks, does not injure the tree at all; it may be done every five years. Loudon says "it is taken off in sheets or tables much in the same way as oak bark is taken from standing trees in England. After being detached it is flattened by presenting the convex side to heat, or by pressure. In either case it is charred on both surfaces to close the transverse pores. This charring may be seen in bungs and taps, but not in corks, which being in the long way of the wood, the charring is taken off in the rounding."

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spontaneous product of most of the southern States. The Scuppernon, which produces a fine wine is cultivated in North Carolina, and Mr. Sidney Weller, of Brinkleville, attributes the great success of the vine dressers in North Carolina to the fact that attention has been bestowed solely upon American kinds, and those of approved quality, the first class embracing such as are good and profitable in all respects, and from which not only gallons but barrels of wine are made. The Scappernong has attained already very high celebrity, is a native of North Carolina, and flourishes south of 37½° latitude. See "Alabama Planter," vol. I., No. 221.

Of the foreign wines principally in use may be named the *Port*, so called from its place of shipment, Oporto. Almost all this wine which is shipped is greatly adulterated with brandy. *Sherry*, a product of Spain, in the vicinities of Cadiz; it is generally much adulterated. *Claret;* the most famous being the Lafitte, Latour, Chateau Margaux and Haut-Brion, the first being in highest esteem. *Champagne*, named from the province making it, the Silery being most esteemed; the trade in this wine is carried on principally at Rheims, Avise and Epernay. *Burgundy* is esteemed as among the best in the world, and extensively grown. The question of preference between it and the Champagne was long and ably discussed. The product of all the vineyards of France was estimated in 1831 at £21,000,000 sterling. *Madeira*, introduced into the island of that name in 1421, it has lost much of its popularity in consequence of frequent frauds practised upon it. The Malmsey is a favorite variety. The *Teneriffe* is an inferior wine. The German are the growth of the country about the Rhine and the Moselle. The *Tokay* is from Hungary, and very costly. The wines from Sicily are principally the *White;* those of Italy have little character as an article of commerce. The wines of Greece and Cyprus had formerly much celebrity.

The quantity of wine imported and received for home consumption in Great Britain in 1835, was 6,420,342 gallons; being of cape, 522,941; French, 271,661; Portuguese, 2,780,024; Madeira, 139,422; Spanish, 2,230,187; Canary, 56,956; Rhenish, 48,696; Sicilian, 376,455. The import the same year of raisins was 169,366 cwt., and grapes of the value of £16,765. The value of wines imported into the United States in 1844–5, was $1,500,000, mostly consumed here, of which the Champagne was largest in value, and claret next. The import of raisins were about $700,000. Vide "Hoar on the Cultivation of the Vine," "Henderson on Ancient and Modern Wines," "McCulloch's Dictionary," "Commercial Review, December, 1846," etc.—EDITOR.

There are many proprietors in the neighborhood of Bordeaux and Bayonne who derive a revenue of twenty-five thousand to thirty thousand livres, (from five to six thousand dollars a year,) from their cork oak groves. The acorns may be procured from thence. They should be packed in wet moss, and allowed to germinate on the passage, after being quite dry they rarely sprout. They would grow, we believe, throughout the whole region of live oak, and would require very little attention or after-culture when once well set.*

Another plant which might be introduced at the south, and which would doubtless prove profitable, is the *Laurus Camphora.* The fourth bulletin of our National Institute† contains an admirable report of that distinguished naturalist, J. C. Reinhardt, in which he gives a succinct and useful notice of the principal plants cultivated in Borneo, Sumatra, Japan and China. In speaking of this plant, he says: "Nearly all the camphor exported to Europe and America is obtained from the *Laurus Camphora,* a tree which grows in China, Japan and Formosa. The tree, including the roots, is cut into small pieces, and boiled, the sublimed gum being received into inverted straw cones, it is then made into grayish colored cakes of a crumbling consistence, and brought to market.

It is purified by the Dutch, and offers a profitable article of commerce. The younger Michaux, in addressing the writer, says: "I have frequently and unremittingly urged my friends in Charleston to cultivate the *Laurus Camphora*, camphor tree, which is much less liable to be injured by the cold than the orange tree. It is not in the sandy soil of the environs of that town that this tree ought to be planted, but in the fresh swamp land eight or ten miles in the interior, where the red bay is found, to which it is analagous. The *Laurus Camphora* might very well be grafted upon this tree, but it is commonly found in all the nurseries around Paris, where it is sold at five francs (one dollar) a plant of thirty inches high. This tree reaches the height of forty and fifty feet. What an acquisition it would be to the southern parts of Georgia and to Florida!" We hope the experiment will be made and this valuable plant generally introduced into the southern States.*

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*"The cork is the spongy bark of a species of oak, and abounds in the south of France, Spain, Portugal, Italy and Barbary. The tree attains thirty feet height; its removal does not injure the tree, which lives to very great age. The cork was known to the ancients, and used for stoppers. The Spanish corks are best. The imports of all varieties into Britain are estimated at two to three thousand tons, in value £70,000 to £100,000. Imports into the United States 1845, $90,862. Both public and private interest, according to Michaux, requires the inhabitants of the southern coasts of the United States, and especially of the neighboring islands, to introduce and rear the cork oak in places unfit for the culture of cotton. It will grow wherever the live oak is found.—EDITOR.

† The National Institute has wisely devoted one department to agriculture. In his address at the meeting in 1840, Mr. Poinsett remarked: "This institution has allotted one entire division to Agriculture. This must be considered the most important, as it is the most necessary of the useful arts, as well as the most essential to our existence in a state of civilization. The hunter or the shepherd can do no more than supply himself and his children with his food. Such a people have no surplus for those who follow other pursuits; whereas in an agricultural community a portion of the people only are engaged in raising grain and cattle to supply the remainder with food, who, in their turn, are employed in the useful or fine arts, or in the pursuits of literature and science, and it may be safely asserted that the degree of civilization in any country will be in proportion to the perfection of its agriculture. Cicero says 'there is no better pursuit in life, none more full of enjoyment, or more worthy a freeman,' and surely there is none which contributes more largely to the wealth and independence of a country."—EDITOR.

But the plant which we would recommend most earnestly to the attention of the Southern cultivator, is the New Zealand flax, (phormium tenax.) It was first brought to Europe by the naturalists who accompanied Captain Cook in his voyage of discovery in the Pacific, in 1775, It is thus spoken of: "One plant in particular deserves to be noticed here, (New Zealand,) as the garments of the natives are made from it. A fine, silky flax is produced from it superior in appearance to anything we have in this country, (England,) and perhaps as strong. It grows in all places near the sea, and a considerable way up the hills, in bunches or tufts, bearing yellowish flowers on a long stalk."

Capt. Wilkes in his narrative of the United States Exploring Expedition, says, "The native hemp, (phormium tenax,) is a most useful plant. It grows in large quantities, and is applied by them, (the natives) to many purposes, besides being a principal article of foreign trade. It is an important material in the construction of their houses, for which purpose it is made into cords, that are also used for other common uses. It is manufactured into fine fishing lines, which we much admired at Sydney for their strength and beauty."

"The manufacture of the hemp is altogether performed by the women, who cut it, and, after it has been dried a little, divide it into strips about an inch in width. The outer green fibres are then scraped off with a piece of glass or a sharp shell. The inner fibres being thus exposed, are easily separated, and the greatest care is taken to keep all the fibres straight as possible, both in this and the following operations. To this precaution the great strength of the cordage the natives make of it is owing. After the fibres are separated they are washed, rubbed, and laid in the sun to bleach."

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* Camphor is obtained by boiling the *Laurus Camphora* timber of China. The export from China is from 350,000 to 500,000 lbs. Small quantities are exported from Batavia of Japan Campor. A better quality is produced from the forests of Sumatra, Borneo and Malay, but never reaches European markets. "The camphor tree" says Johnston "belongs to the same family as the common sassafrass of the United States, though in its general character it is most nearly related to the red bay, so common throughout the southern country, both being evergreens of similar height and at a small distance looking so much alike as to be easily mistaken for each other." The value of camphor imported into the United States has increased from $22,000 in 1835 to $143,536 in 1845.—EDITOR.

Capt. Wilkes says nothing of the garments of the natives being made of this material, which they are for the most part, and he is mistaken when he attributes the great strength of the cordage to the peculiar manner of dressing this description of flax. If he had referred to the experiments of La Billardiere, he would have seen that the fibre of this plant is much stronger than any vegetable fibre we know of. La Billardiere found that the fibre of the agave americana breaks under a weight of seven; that of flax, eleven and three-fourths; that of hemp, sixteen and three-fourths; that of New Zealand flax, twenty-three and seven elevenths, so that the phormium is very much the strongest of known vegetable fibres, and is only exceeded by silk which reaches twenty-four. The English are well aware of its superiority for cordage, and so long ago as 1831 they imported from New South Wales 1,065 tons of it per annum, the market value of which was from £15 to £25 a ton.

We believe that this plant will succeed best in rich swamp soil, although Captain Cook saw it growing luxuriantly on the hill sides. It may be propagated by the offsetts which it throws out at the roots, but no doubt it will produce seed in the southern country which will afford a simple and easy way of propagating it. The phormium has been found to bear the winters of Ireland and the south of England, and is quite naturalized in Provence, France, where it bears seed.

Loudon, in his Encyclopedia of Agriculture, says of this plant, that in New Zealand, "The phormium tenax answers all the uses of hemp and flax." "There are," he says, "two kinds of this plant, the leaves of one of which are yellow, those of the other, deep red, and both resembling the leaves of flags. Of these leaves they make lines and cordage much stronger than any of the kind in Europe. They likewise split them into breadths and tying the strips together, form their fishing nets. Their common apparel, by a simple process, is made from these leaves, and their finer by another preparation from the fibres. This plant is found both on high and low ground, in dry mould and in deep bogs, but as it grows larger in the latter, that seems to be its proper soil. It has lately been found to prosper in the south of Ireland."

The phormium would doubtless succeed in the rich bottoms of the Mississippi Valley, and would add another to the many valuable products of that favored region, and would prove a valuable acquisition to our national and commercial marine.

We recommend its introduction to Southern planters even where it may not be thought advisable to raise it for sale. The leaves form strong and durable baskets, plough lines, and such cords as we daily use on a farm, and may be fabricated by any common laborer. Offsets of this plant may be procured from France at a cheap rate, and from the nuseries in our Northern States at from twenty-five to thirty cents a plant.[*]

We should be much gratified to find this valuable plant added to the staple productions of the South. The prosperity of this portion of our country would be greatly promoted by the introduction of a greater variety of products. A thriving and uninterrupted trade cannot exist without such a variety of articles of exports as will form an assorted cargo at all seasons, and this deficiency cannot be compensated by any single staple however valuable.

We believe that the products of the olive and the vine, the cork and camphor trees, and of the New Zealand flax, added to our cotton and rice, would furnish all the variety which the most active commerce demands, and that their introduction would largely contribute to the permanent prosperity of the South, We therefore earnestly recommend their culture to our friends south of 35°.[†]

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[*] The New Zealand flax," says McCulloch, "exceeds every other species in strength of fibre and whiteness, qualities which, if it really possesses them in the degree stated, must make it peculiarly well fitted for being made into canvass or cordage. It has been obtained within these few years at second hand from Sydney and Van Diemen's Land, the imports from them having amounted in 1831, to 15,725 cwt." Attempts are now making, but with what success remains to be seen, to raise it in this country.—Ed.

[†] To the products enumerated by Mr. Poinsett, might be added the *Colza*, a plant extensively cultivated in Flanders and in France. It is admirably adapted for the food of cattle. It also, after expression, yields a cake which is highly prized for fattening animals or manure. There is a spring variety of this plant which will succeed in almost any part of the U. States, and may ultimately become an article of very considerable importance. The oil of the colza is much used in Europe, and highly prized. In France it has been adopted for all the purposes of light-houses. Messrs. Bache & Jenkins, who were sent to Europe by our Government last year, to obtain information upon these subjects, make in their report some remarks which we leave with the reader after referring him for further information upon "New Products" to the paper by Mr. King on the "Olive," in the *Commercial Review*, March, 1847, and the paper of the Hon. Henry Wise on several other subjects in same number:

"They burn in the English, Irish and Scotch lights 'the best winter bagged sperm

Art. III.—THE DELTA OF THE ALABAMA.

The application of the principles of inductive philosophy to geological research, has so simplified the science and facilitated the labor of investigation as to render it an object of much practical utility. By this means, in connection with those interesting developments which have been made in a region hitherto concealed from observation, the science has commended itself to the favorable notice of almost every class of the community. It is therefore not surprising that so large a share of individual effort should be enlisted in this department of knowledge, so replete with the means to gratify the curiosity and reward the industry of its admirers.

The many who are thus devoted *docti et indocti*, may, for aught that is presumed, realize the fulfilment of their largest expectations. But it must not be forgotten that "there is nothing truly valuable to be obtained without pains and labor." Although the science owes its present advancement in a great measure to the suggestions of a humble

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oil;' and in the French, and most if not all of those of the northern commercial nations, 'the best purified and clarified colza, or rape-seed oil.' The difference in the price of these oils in Europe is ordinarily very great, and to this difference may be attributed in some measure the greater expense of maintaining the British lights. The subject has been attracting the attention of the Trinity board for several years past; in consequence of which experiments have been made both in light-houses and in London, under the direction of a scientific person, to test the relative advantages of the two oils. The results of these experiments have been sufficiently favorable to the colza to warrant us in the belief that it will be generally employed in the British lights at no distant period. We witnessed the experiment at one of the light-houses in which four of Wilkins' catoptric lamps, with the colza, were employed by the side of Argand lamps with sperm oil. We also witnessed a similar experiment at the shop of an artisan in London, at which two lamps were employed. On both of these occasions the difference in the flames, to the eye, was very perceptible, the colza producing *much the whitest and brightest light.* It is also asserted that there is less difficulty in keeping the colza oil liquid in winter, and any impurities that may be in it are more easily detected than in the best sperm oil. It is presumed, however, there would be very little economy in substituting the colza for the sperm oil now in general use in our light-houses—at least not to the extent that it produces in Europe, where the sperm is comparatively very expensive, but if it produces a better light is more easily kept in a proper state for burning during the winter season, and the impurities arising from the mixture of other oils with it more easily detected, then there can be no reason why it should not be introduced; and with a view to that end, we respectfully suggest the propriety of having a series of experiments made upon it and other oils by some competent person. The vegetable from which it is made might be, without doubt, cultivated to advantage in the United States, particularly if in the course of events any thing should occur to break up or render unproductive, our whale fisheries in the Pacific. The subject is one which we deem of considerable interest and importance in several points of view, but especially in that which refers to it as a better combustible for illuminating purposes than sperm oil of the finest quality. We are strongly impressed with the belief that to this oil as much as to the fineness and superiority of the illuminating apparatus, may be ascribed the high reputation, not to say the superiority to all others, of the French lights."

and obscure individual, yet all that has since been done in the way of its improvement, whether in respect to speculative or practical detail, has been the result of profound and laborious research. It is, however, an easy matter to theorize on geological subjects; we have already had enough of this learned trifling, and it has required no small effort of the more enlightened philosophy to clear away the rubbish of this kind which had accumulated to such a degree as to conceal from observation those interesting monuments which furnish the only true record of the earth's history. But the rigid and judicious application of correct principles is not so easy a task, much less the diligent and patient examination of facts for the establishment of correct data, "*hoc opus, hic labor est.*"

To avoid the folly of our predecessors we have deemed it prudent to pursue a less aspiring course, by simply extracting *from our note-book* a few actual observations on the geology of the delta of the Alabama, presuming they may not be irrelevant to the purposes of science. The first particular which claims our notice, is the inclination of the strata. Such, however, is the soft and adhesive character of the clay masses which compose these deposits, that it is not possible to determine their dip by direct observation. There are a variety of deposits, differing more or less in their mineral aspect, and exhibited in apparent succession along the banks of the water courses at distant intervals, but their continuity is somewhat uncertain, inasmuch as they may be relied upon; they indicate a dip at a very small, perhaps evanescent angle. The subjacent beds of the lower tertiary, where they disappear beneath the clay formation, about fifty miles above Mobile bay, show an inclination not exceeding five degrees; but this is a decreasing angle towards the south, hence an imperfect conception may be formed of the amount of dip these superficial deposits sustain at any given point.* The direction of the dip does not vary much from a southwest course, as appears from the relative bearing of the strata in lateral situations on the two principal water courses. The almost entire absence of fossil remains in these argillaceous beds, renders their geological situation in the series somewhat uncertain.

We made a very thorough investigation last summer, particularly in the neighborhood of the calcareous beds, in order to ascertain whether any miocene or pliocene fossils were to be found in them, but without success. The geographical boundary between the two formations on the Tombigbee, is near the lower salt-works; on the Alabama the white limestone drops out from beneath the clay beds; at French's landing, where, as usual, it is charged with nummolites. From thence in a southern direction, there are but few indications to mark the succession of geological events. The animal and vegetable remains hitherto discovered do not differ from existing species. Our cabinet contains *unios* of the species *plieatus*, *circulus*, and several indeterminate casts, which were obtained from an excavation in the mottled clay at the depth of thirty feet, in an inland situation, sixteen miles west of Mobile.

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* The centre of elevation being the highlands in North Alabama, the greatest inclination of the stratified rocks will be in the vicinity of these elevated masses.

Carbonized wood and masses of vegetable debrae are frequently found in excavations at various depths below the surface. Many such deposits are cut through by the principal water courses; they occur even near the borders of the limestone, and no doubt deposits of this kind which are now forming in and around the head of Mobile bay, will, ere long, form an integrant part of the same alluvial series. Another remarkable feature peculiar to this formation, and distinct from the former, consists in those numerous grathodon beds that mark the close of the series of geological events preceding the emergence of this delta. These deposits are found scattered over the surface in various situations between the bay and the fork of the Tombeckbee and Alabama. Almost the entire mass of these shells consists of the species *grathodon cuneatus*, which also exists in a fossil state as far north as the mouth of the Chesapeake,* but is found living only in the bays and estuaries of the gulf of Mexico. The remainder consist of *neritae* and *cyrenæ*, which are also estuary shells, and still living in the bay.† The neritae occur more abundantly, if not exclusively, in the older beds of the interior, but the cyrenæ appear to be limited to the more recent deposits nearer the bay.* The largest of these beds, with few exceptions, occur in the most inland situations, where they are found seven or eight hundred feet in length, with an altitude of twenty. They are superficial deposits in an undecomposed state; those of the interior usually lie upon a bed of clay, while those in the vicinity of the bay rest upon sandy or muddy bottoms. Their form is generally very eliptical, having the longest axis parallel with the direction of the current. A thin deposit of dark colored pulverulent earth generally overlies and extends through the mass, forming an excellent soil for cultivation.†

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* The *grathodon cuneatus*, which is now found living only on the coast of the gulf of Mexico, is an estuary species, requires brackish water for its prosperous existence. Although in some instances it is found in fresh water, it does not continue to flourish in such situations; it inhabits soft alluvial bottoms in two or three feet depth of water, and is slightly buried in the mud. The animal is not remarkably hardy, extreme changes of temperature and various other causes are liable to prove fatal to its existence, the shell itself, though thick and apparently firm. is subject to disintegration, the *umbos* in a mature state are generally decorticated.

† The *cyrenae* is usually found cohabiting with the *grathodon cuneatus;* for its habits are similar, but is much more limited in the number of its species. The *nevita* or *univalve*, is also an inhabitant of brackish water, but very different in its habits from the former. It is usually found attached to solid slimy substances, particularly decayed timber, and near the surface of the water; it shuns the clear limpid stream. The *cardium*, *unio*, and *ostrea* are also found imbedded with the *grathodon cuneatus*, but they occur too seldom to be regarded as the effect of any natural cause, their existence in such circumstances must rather be attributed to Indian agency.

These testucea appear to have been much more numerous at a former period than the present. The maximum of their increase must have been at the period the oldest beds were formed, since then their numbers must have been diminishing. This diminution may, in part, be attributable to the swollen state of the rivers and the prevalence of northerly winds during a large portion of the year, thereby causing the bay to become too fresh for the prosperous existence of these mollusks. Previous to the elevation of the more ancient of these shell beds, there was probably no obstruction as at present existing at the entrance of the bay to prevent the free ingress of the tide from the gulf. This circumstance, together with the increased limits of the bay, would have rendered it much less subject to the diluting effects of fresh water tributaries. Other causes may exist which will eventually exterminate the species from the coast; at least some such presumption seems requisite to account for their present paucity, which is such as to render it inconceivable how such large quantities as are found in a fossil state, could be accumulated in the present epoch.

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* It seems that the circumstances favorable for the co-existence of these species in the same situation, did not always concur; the case in which the *cyrena* is excluded is the most remarkable, for its habits are not known to differ essentially from the *grathodon cuneatus*. But the peculiarities of the *nevita* are such as to render it rather an accidental associate in these beds. It is, however, a matter of surprise that it is confined to the more ancient beds.

† The common oyster on the coast of Maine, occurs fossil in similar circumstances as the *grathodon cuneatus* on the coast of Maryland. The former *testacea* has become extinct or nearly so in all places north of the Delaware. On the coast of Maine it is decidedly an exotic. The most northern point where the living oyster is found is at Portsmouth, N H. The few that are found here are in five fathoms of water; were it not for their location at such an extraordinary depth, they would no doubt ere this have been destroyed by the severity of the climate, and even this advantage cannot long preserve them from extinction, as they are rapidly degenerating. An experiment was recently made by one experienced in the business, by planting in this bay a quantity of healthy oysters in the most favorable circumstances, but the result proved unsuccessful. The imperfect growth acquired was very unnatural, it consisted of a very thin lumination around the border of the shell, which annually disappeared, and the animal itself deteriorated. Planted oysters succeed better in more southern situations, as at Cape Cod and Long Island Sound. There are, indeed, but few comparatively that are found in a native state north of the Delaware. But that they were once indigenious on the coast of Maine is evident; for in a peninsular situation at the head of Damariscotta bay I recollect finding in 1826 a large deposit of these shells. They were imbedded beneath a mass of earth two feet in depth, on which grew a dense forest of the largest oaks. The body of oysters themselves is on a level with the surrounding water, which is permanently fresh. May we not infer from this fact that the temperature has undergone a material change since this deposit was formed, and may not also the gradual extinction of the *grathodon cuneatus* on the southern coast of the United States be attributed to a similar cause? The subject is worthy of investigation.

In a late communication we received from Mr. Lyell on this subject, he attributes the existence of certain beds which came under his observation, particularly at Lake Pontchartrain and the mouth of the Mississippi, "to some change in the heighth of the tide, or the former heaping up of a beach by the action of the waves, without any change in the relative level of the sea or land."

Though it is not our intention to question the correctness of this opinion in reference to those particular instances, yet we are induced to believe that the agencies concerned in producing the beds in the Mobile delta were somewhat different from the preceding. It is true that in the latter case, many of the beds are littoral, but the circumstances connected with their situation in other respects are such as to preclude the possibility of their being formed in the manner of raised sea beaches. Besides, a large number of these beds occur in situations remote from any shore or headland, where they rise up like islands in the sunken region, and are themselves the only elevated spots for miles in any direction. There can be but little doubt that these shell deposits mark a successive movement of upheaval, which this platform has undergone, within a period more or less remote. Some are found scarcely emerged above tide-water, while others have attained different elevations above it, even to the heighth of twenty feet or more, The more elevated of these masses usually occur in inland situations, answerable in most respects to the probable limits of the former estuary. One of the latter kind may be seen at fort St. Phillip, about twenty miles north of Mobile. The land here is elevated fifteen feet above the water, extending along the western bank of the river, and bounded above and below by a sunken morass. The bed in question is situated on the southern extremity, and rises two or three metres above the ordinary heighth of the bluff.

The *gnathodon* shells, as well as the *neritæ*, which are also very numerous here, have undergone a degree of fossilization which denotes an extraordinary antiquity, while on the other hand there are instances near the embouchures of the Spanish and Tensas rivers, where these testacea retain a considerable portion of animal matter, and are hardly deprived of their epidermis. And such is the general appearance of these beds, both in regard to their situation and internal condition, as to mark with much seeming exactness, the gradual retreat of the water from what may be presumed to have been the limits of the former estuary. In connection with these fossiliferous indications it may not be improper to refer to certain lithological facts which seem to have a bearing on the object of our investigations.

The formation, however, presents but few traces, either of regular or distinct stratification. The red and mottled clays are predominant through the entire series.* The other deposits are nuceous, or loamy, with their various mixtures and hues, are generally of an exceptional kind, indicating such temporary conditions as cannot be relied upon beyond a very limited extent. A manifest distinction, however, exists between the general character of the superior and inferior beds. In the former the red and mottled clays abound almost exclusively, while in the latter yellow, white and blue sand, with occasional intermixtures of gravel and shingle, form a distinguishing feature. The arenaceous beds have in several instances been penetrated by boring in Mobile. The yellow sand usually occurs first, and probably owes its tinge to the superincumbent feruginous clay. One of these experiments was made at Gordon's buildings, near the head of Mobile bay. The operator states, that after boring through a bed of loamy earth, at the depth of one hundred and twenty feet, he penetrated a mass of vegetable debrœ, which emitted a fetid odor, beneath which was a bed of blue sand, where the experiment terminated. The entire mass of the water-cuts at fort St. Phillip, Chastang's and Sizemore's bluff, consists of red and mottled clay. At fort Stodder, a few miles above the source of the Tensaw river, a bed of blue clay forms the base of the bluff, succeeded upwards by white and feruginous sand, with intermixtures of silicious pebbles. Near the cut-off, yellow sand makes its appearance. At a bluff two miles above this, on the Alabama, the subjacent bed is blue sand, with white and mottled clays above.

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* It cannot escape the notice of the most superfical observer, that feruginous ingredients form the most striking feature of this formation. But by what rules of geological induction this should ever have been considered as the criterion above all others, to determine the relative position of these beds, is quite inconceivable. For of all the materials which compose the earth's crust, the oxide of iron, in one form or another, is perhaps, the most generally diffused. And the various circumstances in which it exists, whether as a pigment, modifying the hues of almost every other species of mineral substance, or as concretionary matter causing these substances to adhere in every possible variety of combination, or as a fundamental ingredient becoming itself a component part of these combinations, clearly evince that it is not peculiar to any formation. Take this mineral in any possible form whatever, suppose in that of *tubular concretions*, as the type of any particular formation, by the same method it will not be difficult to prove the synchronism of the most separate events in the earth's history.

At Choctaw bluff, the lower stratum is blue clay, succeeded upwards by white and yellow sand and the superficial clays. A few miles above this, at French's landing, the white limestone crops out from beneath the clay beds. The whole series is remarkably destitute of calcareous ingredients. This circumstance, together with the homogenous character of the beds as respects both their mineral and fossil contents, identifies them as one connected series of geological events, and at the same time distinguishes them from the subjacent eocene formation.

It is presumed the vertical dimensions of these beds at Mobile will not vary much from two hundred feet. From a review of the preceding observations, it seems probable that this platform is an old delta, upraised so that the present existing channels have cut through it, denuding in many places the ancient fluviatile and marsh mud, with its drift wood and other vegetable debræ. It has no doubt undergone very modern changes of level. The limits of the former estuary may have been as far north as the junction of the Tombeckbee and Alabama, and possibly near the border of the limestone beds.

The geological date of these events is not so easily determined. The organic remains hitherto obtained are very limited in regard to species; they are all, however, identical with existing forms, and imply a condition of things in no respect different from that of the present geological epoch. They also comport with the presumption indicated by various other considerations, that the whole formation is of alluvial origin.

Art. IV.—ATLANTIC AND PACIFIC RAILROAD.

The demand for an easy transit of the commerce of the two oceans across the continent of America, has been annually increasing until the time seems to have arrived when it *must be accomplished.* Several routes have been proposed for railways, and two, at least, for ship canals. We propose in the course of this paper to show that, while either or all of the routes proposed would be of great value to the commerce of the world, the line from the Atlantic coast, at points east of the Florida penininsula, to Mazatlan, at the mouth of the Gulf of California, is, for many reasons, the best yet proposed.

During the past eighteen months, the perils of the navigation of the

Gulf of Mexico seem to have vastly increased. This has always been justly regarded as the most dangerous of seas, both on account of its violent hurricanes and its thousand shoals and island breakers. Within the period alluded to, there have perished in its waters about one hundred and fifty vessels, at an average value of $10,000, and with cargoes of a mean value of $30,000. The loss of property, then, by the dangerous navigation of the Gulf of Mexico, in eighteen months, amounts to $6,000,000, to say nothing of the value of one thousand human lives sacrificed with the property.

If commerce pays an annual tribute of several millions of property and a thousand human lives to the dangers of Gulf navigation, with its present commerce, she should seek some means of avoiding those waters in any new route which proposes to connect the trade of two great oceans. This is a general reason, sufficient, probably, to commercial men throughout the world. To us, of this great and prosperous nation, there is a more powerful reason why the route should not pass through the Gulf of Mexico.

The Mississippi Valley comprehends a larger extent of fertile, cultivatible lands than the same area in any portion of the world. Upon a careful computation of the extent of the valley, I give it at 1,320,000 square miles.* Seven-eighths of this area is habitable and cultivatable, the greatest proportion of it yielding luxuriantly the products necessary to human subsistence and happiness. Only one half of this area is included in the States, (omitting Iowa and Wisconsin,) and its population is but about 8,000,000, whereas its capacity to sustain 100,000,000 within the present organized States, may not be questioned. The whole valley, when its resources are developed, will sustain a population of two hundred millions of souls, furnishing them the comforts and even the luxuries of an independent and happy people.

To populate rapidly this vast extent of idle domain, and to assume among the nations of the earth the proud position which great population, great wealth, and great enlightenment must command, is our highest interest. While we would benefit the commerce of the world, then, by connecting the trade of the two oceans, and ensure to ourselves an easy and rapid transit to our distant possessions on the Pacific, let us bring that commerce through the valley itself, empty what we need into its lap for distribution to its distant extremes, and retain from that we do not need the compensation for its transport by a shorter route than hitherto known.

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* Mr. Darby, the venerable American geographer, estimates the valley at 1,220,000 square miles, with a circuit of 6,100 miles.

The question at once presents itself what work would answer these vast purposes, and by whom and how shall it be constructed?

The answer I propose is, *A great railroad from the Atlantic at Savannah and Charleston to the Pacific at Mazatlan, near the south extreme of the Gulf of California*, to be constructed by private stockholders, the United States being a shareholder, for military, mail, and other national purposes.

The American public are familiar with the magnificent scheme of Mr. Whitney, who proposes to the Congress of the United States to construct such a road from Lake Michigan to the mouth of the Columbia river, a distance of two thousand four hundred miles, for the land lying on either side of the road, sixty miles in width. The cost of constructing and completing his road, he estimates at $65,000,000. The land at $1,25 per acre, would, if all sold, raise a fund of 113,000,000; but supposing only three-fourths to be saleable, it would produce about $70,000,000 as a government contribution to the work.

Giving to Mr. Whitney the credit properly due, of a man of great energy, forecast, and practical knowledge, there are still strong reasons to be urged why the southern route proposed is more feasible. They should be briefly presented here.

1st. The railroads now in progress from the Atlantic at Charleston and Savannah, are rapidly approaching the Mississippi river, and will ere long connect with it at Vicksburg and perhaps Natchez, in the State of Mississippi, and at Memphis in the State of Tennessee. Connection between the Pacific or Atlantic and the Mississippi, at any one of these points, will answer all the purposes for the entire valley, as the navigation to and from these points is never interrupted.

2nd. The distance from the Mississippi to the Pacific, say from Vicksburg, Natchez, or Baton Rouge, to Mazatlan, is not more than 1,500 miles by the route I propose for the railroad, whereas Mr. Whitney's route is 900 miles greater; certainly an important item.

3rd. The cost of construction per mile, will be much greater on Mr. Whitney's route, because of the vast mountain barriers after reaching the summit at the South Pass. The distance from that point to the ocean, will cost more than the whole road by the southern route.

4th. After its construction, say twenty-five years hence, during a considerable portion of the year it would not be available. The severe winter weather and deep snows will render it impracticable for two or three months of each year, whereas the southern route would be continually practicable, and travel upon it very pleasant at all seasons of the year.

5th. The northern route must always be liable to the difficulty of passing through an uninhabitable region for a long distance, whereas the southern route is populated at the present time, with a few intervals of not more than one hundred miles, and these intervals, all but one on the table land of Mexico, at least habitable at points after the construction of the road.

6th. It is highly probable that the southern route will pass through a region rich in mines, and the construction of the road through the only rugged portion of the route, (the last 400 miles,) pay for itself in the precious metals laid bare by the excavation.

The chief difficulty which formerly presented itself, and which rendered it very doubtful whether we should be able to realize our hopes of a connection between the two oceans by a southern route, was to secure the assent of Mexico. We now have it in our power to avoid that difficulty. We are at war with Mexico, and probably *shall dictate our own terms of peace.*

The right of way for a railroad through such region of Mexico to the Pacific, as we see desirable, should by all means be exacted. There is nothing unreasonable in the exaction, because the work would be of vast value to Mexico, developing her resources, introducing commerce, and furnishing a market for her productions. I would urge it in the most earnest manner, upon the attention of the executive, that the *right of way*, in some form, be demanded, and constitute a *sine qua non* in our treaty with that republic. As neighboring land proprietors owe to each other and to the public the right of way to and from the the great highways and water courses, so do neighboring nations owe this servitude to each other, even when each has domain of her own reaching such highways, provided that domain does not offer the shortest and best route.

Mexico has not at present a single work of the kind in her vast domain, nor has she sufficient enterprize to construct a railway or make any other great work. The roads, some short routes excepted, are as miserable as the nature of the ground can make them. There are few coach routes and few coaches or wheel vehicles for want of them, in Mexico. Their mules pack their merchandize from the distant seaports to the great interior cities, and their journeys are often most circuitous and expensive. As an item, the great amount of quicksilver used in their mines, even in the provinces touching the Rio Grande, is for some pretext best known to Mexicans, packed upon herds of mules from Vera Cruz, (where it is landed from Russia and other foreign countries,) to the *city of Mexico*, and thence disbursed to the distant departments by a whole journey of about one thousand miles. Since we have had possession of the country our steamboats have found their way up the Rio Grande to a point within two hundred and fifty miles of some of the richest of those mines. But no steamer had ever before entered that river, at least, beyond Matamoros. We find some seven hundred miles of navigable channel in that river which Mexico had never used, though she had a population of more than a million dwelling upon its waters. Mexico needs our aid in developing her resources. The steam engine is a better instrument for this purpose than the sword.

Should the principal route be constructed, it would not be long before lateral routes would be built connecting the best mining and agricultural regions with the great outlet.

But in addition to the thousand advantages to commerce of a great railroad through the continent, we should immediately have the telegraph's wires stretched along the same route, and thus give a kind of omnipresence to all the news of the continent and the two ocean shores.

Again I repeat, *let us demand the right of way from Mexico.*

The exterior commerce which would pass over this road is given by Mr. Whitney from the Pacific, thus:

	VALUE.	NO. SHIPS.	TONNAGE.	MEN
China, - - -	$8,000,000	50	21,204	913
Dutch East Indies, -	538,000	10	3,944	160
Spanish Islands, -	633,000	9	4,025	150
British East Indies, -	1,276,000	26	9,500	418
In the Pacific,	————	192	70,600	4,685
	$10,447,000	287	109,273	6,326

The following extract from Mr. Whitney's Memorial to Congress will better illustrate the statistical view of the road's importance than any I could present. This will be borne in mind, however, that all the expenses of transportation to the Mississippi Valley, on his route, from its greater length, will be thirty per cent. greater than on the southern route, and the cost of transportation from ocean to ocean full forty per cent. greater.

"The above are entries at the customs, except in the Pacific, which are clearances, a greater part of which are engaged in the whale fishery, and altogether only about one-third of the amount of tonnage engaged in that important branch of commerce. The exact value of the returns of the 192 ships could not be ascertained. The whole import during 1845, of the whale fishery, was estimated at $8,300,956. The whole number of vessels employed, January 1st, 1846, appears to be 736; tonnage 233,149; officers and men employed, 19,560; estimated value, $29,440,000; a greater part of which vessels cruize in the north Pacific; they are some two, three, and four years absent. With this road in operation, it would require but *eight* days to transport a cargo of oil from the Pacific to the Atlantic, costing half a cent per a ton weight per mile to Lake Michigan, $12; thence to the Atlantic at one cent per ton per mile, (which will be a fair price when all the roads from the different Atlantic cities are opened to this road with fair competition) for 1000 miles, would be ten dollars more, making but *twenty-two* dollars for the transportation of one ton weight from ocean to ocean. The saving of time would compel to this route, when our whale ships would be built or *all* fitted out from the Pacific shore, saving the now long and dangerous voyage around the Cape, out and home.

"The ships in the above statement, except the whale ships, would average outward cargoes to half the amount of tonnage, and homeward full; and it would be safe to estimate for both ways together, the 109,273 tons.

The English commerce which would immediately pass over this road is, with China alone, 45,000 tons; homeward full and outward half full, would be 67,000 tons. An accurate account of the English commerce in the Pacific, as also with India, your memorialist will be able to present to a committee in a few days, should it be necessary, Your memorialist believes that all this commerce, as also the English mail, and all passengers to and from China, as well as Calcutta, must and will pass over this road. A passage from England to China by this route would not exceed $350, which now costs by the overland route over $1,000, and not comfortable; and all extra baggage at *three pounds sterling, equal to* $15, *per hundred pounds weight.*

Your memorialst begs leave to represent to your honorable body the cost for freight of merchandize from China to the Atlantic cities on this route. From the mouth of the Yang-tse-Keang (the Mississippi or Missouri of China, and where all its foreign commerce must centre,) to the Columbia river is 6,000 miles. The freight of one ton measurement would cost $7: requiring two to two and a quarter tons measurement to make one ton weight of teas or the like merchandize, would cost to the lake, 2,400 miles, at one-half a cent per mile per ton weight, say *six dollars;* and from the lake to the Atlantic, 1,000 miles, at one cent per ton weight, would be *five dollars* more—making in all $12, for one ton measurement of teas or the like merchandize from China to any of the Atlantic cities, which varies, by ships around the Cape, from 18 to 30 dollars.

COMPARISON OF THE TWO ROUTES.

ITEMS.	*Northern Route.*	*Southern Route.*
Distance asunder of two oceans, ...	3600 miles.	2170 miles.
Portion already constructed, . . .	712 "	433 "
Likely to be constructed by companies independent of either route.	400 (?)	338 "
Routes now proposed to the Government, .	2400 "	1490 "
*Distance explored, ...	1300 "	1000 "

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* It is not meant that either of the routes has been explored for the road, to the distance stated, but that the topography of the country is sufficiently well known to enable us to form a tolerably near estimation of cost, distance, etc. I made a

ITEMS.	*Northern Route.*	*Southern Route.*
Estimated cost of construction of distance explored,	$20,000,000	$12,000,000
Total probable cost, ...	50,000,000	22,000,000
Distances not inhabited, ...	1400 miles.	Two intervals of 100 miles.
*Portions of the year available, . . .	9½ months.	12 months.
Probable length of time before completion with the aid sought from the Government,	20 years.	7 years.

The geography of a country indicates with considerable certainty routes for great thoroughfares. These must either connect great commercial points, or pass through a very productive country. If both these objects can be accomplished the work will pay the better. The Apālachian chain of mountains stretches itself nearly parallel to the Atlantic ocean from the Hudson river to the Mississippi. From its summit the surface inclines in planes of various depression to the ocean, forming a country whose greatest productiveness is mainly midway between the mountains and the sea. At least it may be safely stated that the lands are poorer, population sparser, and enterprise and wealth much less known, cities excepted, towards and along the margins of the region described. A belt of pine forest, growing from a sandy diluvium or drift, bounds the Atlantic with a width varying from one hundred to one hundred and fifty miles. This is bounded by a middle vale of from one hundred and fifty to two hundred and fifty miles wide, of tertdary, cretaceous and secondary formation, very fertile indeed. The steeper mountain slope is primary, and of course less fertile formation. The head of navigation of the rivers running from the mountains to the sea, along this slope, is usually found in the middle portions. These will form each a link connecting the railway with the ocean. When these are wanting the several cities demanding such connection will construct lateral railways to the principal road, whose general range is indicated by the country as midway between the mountains and the ocean. There are already in operation twelve hundred and eighty-five miles of the route from the N. E. to the S. W. portions of the United States, at an aggregate cost of $34,208,000, or $26,621 per mile.

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reconnoisance of the southern route through Louisiana and Mississippi, and have had very accurate descriptions of the country to San Antonio, in Texas, and an account from a gentleman in Gen. Wool's army, of every portion of the route from San Antonio, Texas, to Parras, in Mexico. The country is so nearly uniform in character through the entire State of Texas and that portion of Mexico travelled by the army, as to give a very near approach to the cost of a road such as I propose.

* It is obvious that the route must be complete from ocean to ocean before it would pay well on the investment. This would require that the lakes contemplated by Mr. Whitney as a portion of his line, must be passed round by a railway, or a longer period than I have given the route, will be ice and snow-bound.

The remainder of the route, from the Atlantic to the Mississippi, lies through a country much less difficult of excavation. It will not cost more than $10,000 to $12,000 dollars per mile to construct this road, and the South Carolina, Georgia, and Alabama companies, will doubtless meet the work now progressing through Mississippi. New Orleans will be connected with it by the Mississippi, and a railway, if she desires it. Mobile will reach it by the Alabama river, and by a railway already in contemplation, directed towards the mouth of Ohio and St. Louis.

The route thence westward, through Louisiana, which I have explored and estimated, leaves the Mississippi river at Vidalia, opposite Natchez, though the cost would not differ greatly should it depart from Vicksburg or Baton Rouge.

ROUTE THROUGH LOUISIANA, FROM VIDALIA.

To Trinity,	26 miles.	Level.
Alexandria,	54 "	Chiefly level, one grade 20 ft. per mile.
Bayou Cotile,	20 "	Level,—no obstacles.
Sabine River,	50 "	Undulating,—some hills, no rocks.
Aggregate dist.,	170 miles.	Cost, per estimate, $1,500,000.

ROUTE THROUGH TEXAS, FROM LOWE'S FERRY.

To San Antonio de Bexar,	400 miles.	Country gently undulating.
Rio Grande del Norte,	150 "	Undulating, no obstacles.
Aggregate distance,	550 "	Estimated cost, $5,500,000.

ROUTE FROM RIO GRANDE, AT PRAESIDIO, TO MONCLOVA.

To Base of the mountains of Monclova,	100 miles.	Crossing one hill, not steep.
Hot Springs, along base of mountains,	20 "	Hilly route, between mountains.
Monclova,	50 "	Some hills,—no rocks.
Aggregate distance,	170 "	*Estimated cost, $2,200,000.

ROUTE FROM MONCLOVA TO PARRAS.

		REMARKS.
Monclova to Bazan,	30 miles.	Road between mountains, not crossing them.
Bazan to La Joya,	14 "	Calcareous dusty roads, W. S. W.
La Joya to Venedito,	32 "	Same surface, course W. No water. Easy mountain pass. No settlement from Castana to Venedito, 66 miles. A small river. Venedito, passes into the San Juan and Rio Grande.

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[*] In this we have only considered the cost of materials and the construction of the road. The transportation of materials cannot be estimated, but would amount perhaps to ten per cent. on the whole cost. But labor is *very* cheap in this region of Mexico, which will probably balance this item. There are no very long intervals without settlements, and laborers are plenty at about $4,00 per month.

			Remarks.
Venedito to Sanceda,	22	”	Route chiefly barren. Sanceda finely cultivated country. Venedito here called Los Angelos, S. S. W. Mountains on both sides of the road.
Sanéeda to Jarrol,	16	”	Road rough, broken with ravines, but no mountains. Bearing S. 28° W. Jarrol,—same water course, broad valley highly cultivated.
San Antonio de Jarrol to La Pastora,	16	”	Dry and barren, but pretty level.
La Pastora to Tenago,	8	”	River flows into Los Angelos and San Juan.
Tenago to Cienega,	20	”	Rough and difficult for wagons and artillery.
Cienega Grande to Lorenzo de Obaza,	18	”	Splendid valley country, producing every thing.
Obaya to Parras,	5	”	Splendid valley country, producing corn, wheat, wine, etc.
Aggregate,	181	”	Estimated cost, $2,800,000.

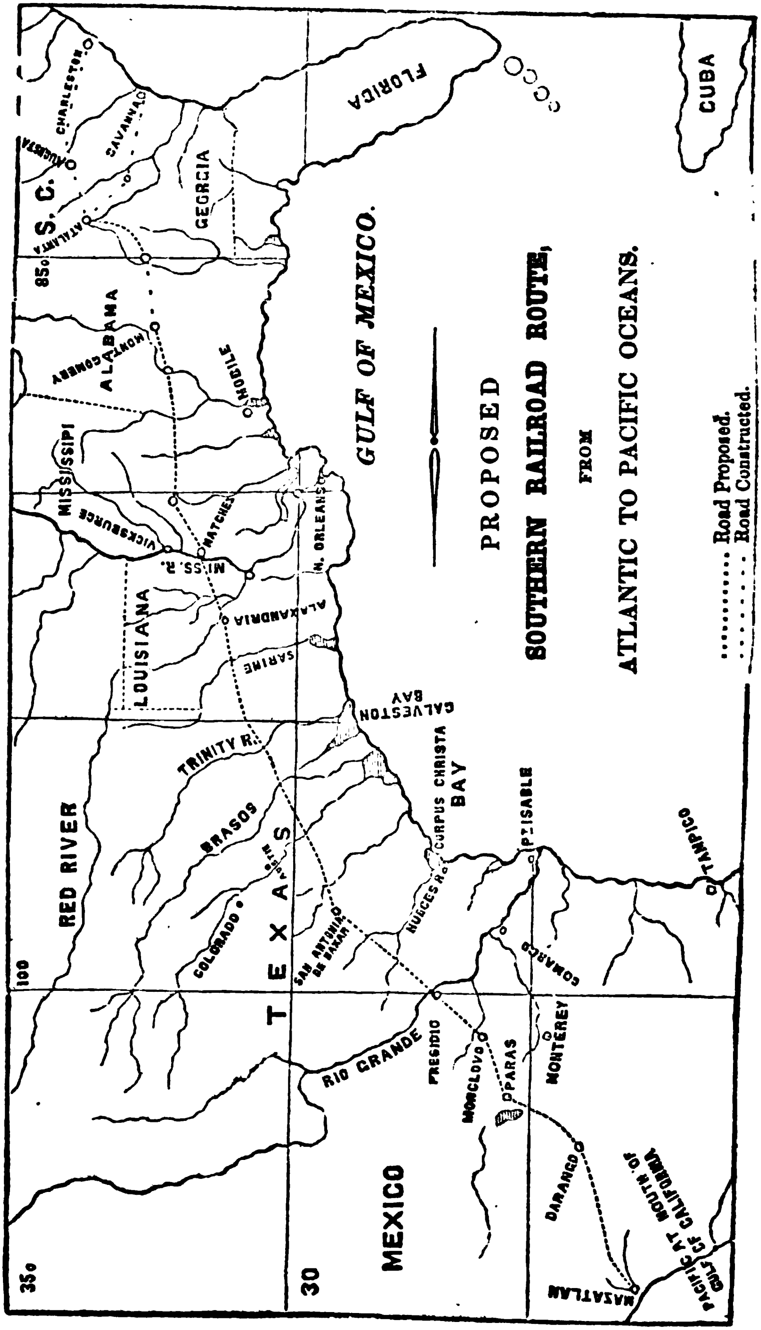
ROUTE FROM PARRAS TO MAZATLAN, ON THE PACIFIC.

To Durango,	220 miles.	S. S. W. Table lands generally.
Rosario River,	70 ”	Mountainous country.
Mazatlan Bay,	130 ”	Along the Rosario River.
Aggregate distance,	420	Cost supposed, $10,000,000.

RECAPITULATION.

Through Louisiana, - -	170 miles.	-	$1,500,000
” Texas, - - -	550 ”	-	5,500,000
” Coahuila to Monclova,	170 ”	-	2,200,000
” Coahuila to Parras,	181 ”	-	2,800,000
” Durango and Sinaloa,	420 ”	-	10,000,000
Aggregate distance,	1491 ”	-	$22,000,000

In conclusion, it is but due to the memory of the dead to say, that the first person in the United States who suggested this route in general terms, was the late Robert Patterson, Esq., editor of the Concordia Intelligencer. Shortly after the suggestion made in that paper, in October, 1845, the writer of this paper addressed a public assembly at Natchez on the subject, and sketching the route on a large map, presented it to the consideration of members of the Memphis Convention. From many it received favor, among whom was Col. Gadsden, of South Carolina, who has endorsed it tacitly by a published map of a southern route to the Pacific.



PROPOSED SOUTHERN RAILROAD ROUTE, FROM ATLANTIC TO PACIFIC OCEANS.

ADDITIONAL REMARKS BY THE EDITOR ON THE PROJECTED SOUTHERN AND NORTHERN ROUTES ACROSS THE CONTINENT TO THE PACIFIC.—THE IMPORTANCE OF THESE ROUTES.—EASTERN COASTS OF ASIA AND ISLANDS OF THE PACIFIC.—TRADE OF THE INDIES, ETC., ETC.

The question of the original conception of a railroad communication between the Atlantic and Pacific Oceans, we shall not occupy any time to discuss. Such is the progressive nature, of American mind, and its disposition to grasp conclusions at the very moment that premises are presented, at least so far as enterprise is concerned, we may argue that this idea of a passage across the continent, must have occurred to many simultaneously with the first successful railroad results among us. The world having dreamed so long of reaching the Indies by reduced travel, it was natural to catch at much slenderer shreds than this appeared, in support of the much desired result. It has only been within the last two or three years, however, that these several notions have attracted much interest or attention, and been regarded immediately practicably any where.

We have already done justice to the claims of Col. Gadsden, of South Carolina, of the late Mr. Patterson, of Concordia, and of Professor Forshay, in this particular, and without pausing to compare their several merits, or the merits of Mr. Whitney, we will content ourselves with some additional hints upon the general subject.*

In his Report as President of the South Carolina Railroad Company, Col. Gadsden, in February, 1846, soon after the adjournment of the Memphis Convention, remarked:

> "In connection with these Atlantic railroad communications with Vicksburg, Grrand Gulf and Natchez; crossing the Mississippi at one or all of these points, roads are already projected, looking further to the west, which, uniting *on a common trunk*, in the rapid progress of southwestern expansion and emigration, will, in time, be made to course through the new acquired territory of Texas, and by the Mexican provinces to a terminus at Mazatlan, in the bay of California, or taking a more northern direction by the valley of the Red and Arkansas rivers, may easily pass by the southern gorges in the Stony Mountains, and find, in the course of events, *certain*, though *slow*, a more favored location in the imposing Bay of San Francisco, on the Pacific."

Col. Gadsden published at the same time a map showing both of the above routes, but with very little of the particularity attained in the plan which we now publish. It has, however, the advantage of showing all the great American lines of railroads completed or proposed, including that of Mr. Whitney.

E. H. Derby, Esq., in the Railroad Journal, has lately proposed a route from the gulf of Mexico to the Pacific, almost identical with one proposed to us last summer in conversation, by our friend, Col. Hamilton, of this State. But we will allow Mr. Derby to state his own case:

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* See Commercial Review, January and March, 1846, March and May, 1847.

> "A superior route from the Atlantic to the Pacific, follows as near may be, the tropic of Cancer across the continent. This line protracted, sweeps by the southern capes of the two great peninsulas, Florida and California, and crosses the American continent at a point where it is less than 480 miles in width; a distance just adequate to surmount the table land by a railroad with moderate grades.
>
> "The tropic of Cancer passes nearly over the Havana, strikes the coast of Mexico a little to the north of Tampico, crosses the northern provinces between Zacatecas, Chihuahua, thence nearly over Mazatlan, a seaport on the Pacific, much resorted to by our ships of war, thence passes over the Sandwich Islands, the great resort of our whale ships, and proceeding westward between Manilla and the Japan islands, strikes China close to its principal entrepot, the great city of Canton. The route would be nearly direct from New Orleans to Canton.
>
> "Assuming that the length of a railroad would exceed the air-line twenty-five per cent., the whole length of the proposed line would not exceed six hundred miles; and assuming the same cost per mile allowed for Whitney's road, or $30,000, the entire cost would not exceed $18,000,000, or less than one-fifth the cost of the Whitney railroad.
>
> "From Mazatlan to San Francisco, a line of steam packets may convey a passenger in five days, so that the weary emigrant, who is now from May to October on his journey to California, may in fifteen days from St. Louis, reach the land of promise.
>
> "Another effect of the line would be an easy access to Chihuahua, and Zacatecas, reputed to be the richest mining districts of Mexico, and open an inlet for our manufactures into the heart of Mexico itself, by the great inland road, along the table-land from Monterey to Mexico, a connection which would doubtless repay us for all the expenses of the present war.
>
> "Another advantage, common, however, to both lines would be secured; American ships, now excluded from the direct trade between China and most countries in Europe, could transport goods between China and the western terminus of the railroad, and thus command a vast freighting business.
>
> "The route suggested might commence either at Tampico, Santander, or Brazos Santiago, as the face of the country should prove most inviting, or the greatest facilities exist for forming a good harbor, and in case the country south of Chihuahua should, in the settlement with Mexico be released to that country, a route a little longer, but possessing most of the advantages of that proposed, might be opened from Corpus Christi or Aransas to Guayanas, one of the most eligible ports on the Pacific."

During the session of the last Congress, Mr. Breese, of ~~Indiana,~~ Illinois presented an elaborate Report upon the subject of attracting to our country the commerce of India and the Pacific, in particular connection with Mr. Whitney's road. He collected much valuable matter, and furnished many new views commercially, agriculturally, politically, etc. We are indebted to the Report for most of the facts which follow.

The route proposed by Mr. Whitney projects from the shores of Lake Michigan, strikes the Mississippi at a point above the mouth of the Wisconsin, six hundred and fifty miles from St. Louis, thence westward to Missouri above the mouth of the Great Platte, thence to the great South Pass 42° in the mountains, and through the valley of the Columbia by Lewis's branch, to the ocean. The road to the South Pass is represented by Fremont as without any difficult ascent, passing through an open prairie region. The height of the Pass is seven thousand nine hundred and forty feet above the gulf of Mexico, ascent gradual and scarcely perceptible; distance from mouth of the Great Platte, eight hundred and eighty-two miles, and from St. Louis twelve or fifteen hundred miles, according to the route adopted, being steamboat distances. From the Pass to the mouth of the Oregon, the extent is fourteen hundred miles. According to Col. Fremont, it appears that the mouth of the Kansas is seven hundred feet above the gulf of Mexico. The road thence to Republican Fork, five hundred and sixteen miles, ascends twenty-three hundred feet more, or four and two-thirds of a foot to the mile; the next one hundred and twenty-eight miles ascends eight feet to the mile; the next one hundred and seven miles nine feet; the next eighty miles sixteen feet to the mile; the next eighteen miles forty-two feet to the mile; the next eighty-nine miles to the Pass, two and a half feet to the mile.

"From this point a descent takes place more irregular than the former ascent, to an elevatian of about six thousand feet above the sea, and maintains a uniform elevation to the Beer Springs, a distance of 545 miles, and 311 miles west of the Pass; then the surface appears to be equally irregular for 540 miles.

"The next 178 miles is on a general elevation of 3,000 feet from the sea, or a descent of seventeen feet to the mile.

"From the last point to the foot of the Blue Mountains, is 282 miles, (the west side.) The elevations and depressions of this last distance vary so as to make an average grade of 10½ feet to the mile; thence to Fort Vancouver the road descends 1,000 feeet in 303 miles, or less than 3½ feet to the mile."

But not to delay the reader with the minutiæ of these matters, we will furnish some of the data afforded by Mr. Breese, in evidence of the value of this overland communication, which are as applicable to all the different routes proposed to the Pacific as to the one under discussion. What shall our commerce gain in this direction, and how shall our railroad be employed? The Russian possessions border upon our western coast, whatever their trade may be worth. Manchoo Tartary adjoins, through which the great Saghalin river, four thousand miles long, flows, bringing it into communication with Pekin. The country is densely populous, and very little known.

The Island of Japan is next in order, its population is estimated at not less than fifty millions. Foreigners are excluded, except the annual visits of two Dutch vessels and ten Chinese junks. Products of this island,—silks, teas, rich manufactures, coppor, sulphur, tin, gold, silver and lead.

The Chinese empire contains a population of three hundred and sixty-seven millions; the capitol, Pekin, containing from one million five hundred thousand to three millions, according to estimates. The city of Tien-ts-in is the port of Pekin, and is distant sixty miles from the sea, thence the great city receives its supplies of grain and salt. The province of Kiang-nan contains seventy-two millions of inhabitants, and is exceedingly fertile. Nankin and Soo-choo are its chief cities, besides many thousand villages and towns. The people are advanced in letters and arts. Nankin is a great manufacturing town. The Hong-ho and the mighty Yang-tsee-keang rivers water this country. At the mouth of the latter river is the populous city of Chang-hae,* now open to foreign commerce, and likely to become celebrated. Southward on the coast is the Chi-kiang province, "the land of silks and green teas," a dense and advanced population. Its cities are Hang-choo, next in rank to Pekin, and Ning-po, now open to foreign trade. The Fuh-kien contains under its jurisdiction the Island of Formosa,—this is the district of the black teas. Its city among those open to foreign trade, is of much importance. Formosa yields abundant sugar, rice, camphor, etc. Canton is in the Quang-tong province, formerly the only Chinese port open to foreigners. Its population is one million. The coast population of China is estimated at two hundred and seventy-four million.

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* Chang-hee or Shang-hai, is the New Orleans of the eastern world. Our government has lately appointed Mr. Lyon as Consul there. A New York paper thus enlarges the description:

"It is the northernmost, and therefore the healthiest of all the Chinese ports open to foreign trade. It is situated in 32 deg. of north latitude, at the mouth of the great river, Yang-tsee-kee, a name signifying Child of the Ocean. Shang-hai is the most populous of the Chinese ports with which foreigners are permitted to trade. Within the walls are five hundred thousand inhabitants; in the suburbs are two hundred thousand. The population of Canton is only about half that number. It is situated immediately on the ocean, while Nankin is reached by passing up a river. On the banks of the Yang-tsee-kee. and around Shang-hai, lies the region in which green tea is produced. Teas are cheaper at this port than at Canton; they are brought immediately down the river, and the producers have no canal transit duty to pay, as at that port. This circumstance and the commodiousness of its harbor, and the healthiness of its climate, are probably the reasons why the English trade with this place has increased so rapidly It is now quite equal to the English trade with Canton.

"Shang-hai commands the extensive Japanese commerce which passes through that city up the Yang-tsee-kee to Nankin, and thence through the great canal, six hundred miles further to Pekin, the great inland city of the empire. So large is the trade of the port, that seven thousand junks have been seen lying before it at once waiting for their cargoes. If the trade with Japan is ever acquired to this country, it must, in all probability, be by means of the wealthy Japanese merchants, amounting to about two hundred, who reside at Shang-hai, where they conduct the commerce of the country, maintain their own schools, and preserve a separate existence from the Chinese.

"The river Yang-tsee-kee is the Mississippi of China; its banks, in the language of the country, are called the paradise of China. The French missionaries remarked long ago, that great resemblance existed between the climate of the Chinese coast and that of North America. But at Shang-hai the winters appear to be colder and the summers warmer than is the same latitude in the United States. At Shang-hai the snow falls in winter to the depth of two or three inches; and ice, the product of the winter frost, is preserved for use through the summer."

"Thus" says Mr. Breese "it will be seen that this vast empire slopes to the ocean and to us with its whole territory intersected by canals and navigable streams, all uniting with or tributary to the mighty Yang-tse-keang and Hoang-ho, wafting their rich freights into the great canal, convenient to the great city of Chang-hae, distant from the Columbia or San Francisco, 5,400 miles, and ready for an exchange for our numerous products and commodities. The present sea voyage is over 18,000 miles, and requiring nearly six months in which to perform it."

We extract a few passages at length from the Report, descriptive of the Chinese:

"The population being from the Imperial census, and taken for taxation, is supposed by those best informed, to be under rather than over the actual number, and it is also believed that a considerable increase has taken place since that date, and that the entire population of China is not now less than four hundred and fifty to five hundred millions, of the most temperate, orderly, frugal, intelligent and industrious of any people on the globe, not one of whom, arrived at man's estate, but can read and write. They use no machinery, even for manufacturing, still with all the soil occupied, they do not produce from it enough to sustain life, and famine often ensues a short drought. Their foreign commerce, carried on by themselves, is small, and confined to Japan, Manilla, Java, Borneo, and Singapore. Their productions for export are teas, in which they have no competitor, raw silk and manufactured silks, which may be extended to an unlimited amount. With a little attention, they can compete successfully with any nation, except, perhaps, in articles of taste, purely in blending colors. Plain silk goods they can make cheaper than any other nation; but our tariff of 1842, imposing a specific per pound duty, entirely excluded their silks.

"They are very ingenious and expert, and manufacture almost any thing in good taste. Some of their goods are richer than those of similar fabric in any other country. They produce drugs, camphor, rhubarb, etc., etc., for all the world, and can produce any quantity of sugar, and probably cheaper than any other country, for labor is nowhere so cheap, or more bountifully applied; and they can produce numerous other articles both desirable and useful, which are now excluded from their exports by the expense unavoidably attendant upon a commerce so far off. Their imports consist of manufactured cotton and woolen goods, some iron and steel, and a variety of other goods from England; and from Bombay, Calcutta and Madras, three to four hundred thousand bales cotton annually, and from thirteen to twenty millions of dollars in opium, and some rice. From the Dutch islands, they import a large amount of rice, an account of which is not found in any statistics. Waterson's Cyclopædia, page 153, says: 'The quantity of rice imported into China, in 1834, in British vessels, was 15,406, and in American, 7,412 tons: total, 22,818 tons.' They also import products of the sea and islands, such as birds nests, biche-de-mer, fish maws, sharks fins, sandal wood, putchuck, ratans, pepper, and a great variety of articles. From us they take some raw cotton, and hereafter it is probable they will take a large amount. They now use it for wadding their clothing. It is better than the Indian cotton, and we can produce it cheaper; but in the manner in which we gin it the fibres are bent or broken, and as they have no machinery they cannot straighten or use it for spinning. A way will yet be found no doubt to accomplish this object, when it is not unreasonable to suppose they will take 300,000 to 500,000 bales annually; and more, if we take their products in exchange They take our cotton goods, drills, sheetings, to a large amount. No nation can compete with us in these goods, and they, the former particularly, may be considered as staple as rice. They take our lead and copper, our ginseng, furs, and our flour; and if we could send to them short of the long voyage twice across the equator, (almost sure to destroy all produce, animal or vegetable,) they would take our Indian corn in any quantity, our rice, our tobacco, our pork, beef, hams and lard. All foreigners now there depend on us for these articles, as well as butter and cheese: both of which your committee are informed, being sold frequently at one dollar per pound. It appears that in 1838 they commenced taking leather and hides from Russia: the amount more than doubled in four years. As they keep but few animals, they cannot supply themselves with leather, and this is no doubt the cause why it has not been in general use, but should its use increase as it has commenced, the demand will soon become very great, and to us alone must they look for a supply.

"The committee have mentioned a few leading important articles; but should we succeed in opening a direct way whereby a free, frequent, and cheap exchange could take place, they fully believe the variety on each side would be endless, and the amount without limit, and we should have an advantage over the present sea voyage, or any other route or channel, which would be incalculable, and will all pass, both ways, in north latitude, from above 30° to 40°, so that teas and other products, our Indian corn, flour, beef, pork, hams, butter, cheese, etc., etc., will escape the great danger of injury and destruction from the long sea voyage around the cape, or any route twice across the equator.

"It is known that the Chinese are not a maritime people, and probably never will be so, from custom and want of materials for building ships; therefore the more important is the commerce to us, as we should be carriers both ways. We now have all this within our grasp, to be secured to us forever by this iron road, as the committee fully believe."

The Sandwich Islands are distant two thousand miles from our coast, they are twelve in number, (we draw upon a paper prepared by the editor of the Review when editor of the Southern Quarterly, upon "Oregon and the Oregon Question,") of which the chief are Hawaii, Maui, Oahu and Kauai. They were discovered by Captain Cook, whose valuable life was sacrificed to the fury of the natives. The savages of these islands soon proved themselves capable of high cultivation. Although their native treachery is not entirely subdued, they have yet made, in so short a period, extraordinary progress in civilization. Extensive missionary operations have, for some time, been conducted on the islands. The sovereign on the throne, with his ministers and servants, have professed a faith in the religion of Christ. Seldom has a monarch exerted himself more strenuously for the good of his people. The main mission enterprize has been conducted by the Presbyterians. The Catholics endeavored to get foothold, and the sturdy opposition with which they were met by the Protestants, is thought to have effected more good for their cause than evil. The French government compelled, at the mouth of the cannon, a toleration of the Catholic faith. The American missionaries have almost formed a new language for the natives,—a written language,—into which they have translated the whole Bible. They have instituted every where societies, churches, schools, and the foreign population which has congregated on the islands is every day on the increase. The whole population is about one hundred and fifty thousand, of which perhaps one thousand are foreigners. Two-thirds of the foreigners are Americans; the others are English, Chinese, French, Spanish and Portuguese. The possible population which the islands could support, may be set down as many times greater than the present, and there are reasons for predicting a very rapid augmentation of numbers, but the native population is rapidly decreasing. An independent government has been established, and since all the islands were united under a single sovereignty, there have been several monarchs. Old Tamahamaha was, perhaps, the most celebrated of these. His son, Riho Riho, went to England to visit his brother, George IV., and was received with great eclat. He died in England in 1824.

The Sandwich Islands, since their first discovery, have been, to a great extent, under British influence. Latterly, Great Britain has been disposed to make the connexion a more intimate one, and has only been checked by the jealousies of other powers. The affair of Lord George Paulet, in 1843, caused not a little excitement; and taken in connection with the occupation of the Falkland Islands ten years before, by British forces, evidences the state of feeling with which the islands of the South Sea and Pacific Ocean are regarded by that nation. The proceedings of France, too, in relation to the Society and Marquesas Islands, have a significance not easily misunderstood. The claim which England has upon the Sandwich Islands, is founded upon the discovery of Capt. Cook, and the possession which Vancouver, in 1794, is said to have taken of Owyhee, by the free and voluntary cession of Tamahamaha I. and the other chiefs. The latter pretext has ever been considered by the rest of the world as flimsy indeed, invented only to conceal the ambitious schemes and grasping policy of the British nation. The Sandwich Islands are now, however, free and independent, so far as the acknowledgments of other nations can make them so. These acknowledgments have been lately made by England, France, Belgium, and the United States. Diplomatic agents, etc., are sent to and accredited from them. It is the obvious interest of all nations that they should remain free.

The soil of the islands is not, in general, fertile. There are exceptions, however, in particular parts, and the climate in all parts is regular and tropical. Cotton, indigo, coffee and wheat flourish, and will improve to a large extent. Potatoes abound, and the supplies furnished to trading ships touching at the islands, are of great value. Cabinet woods grow luxuriantly, and sugar in large quantities, it is thought, may be cultivated. A Belgian company is now engaged in experiments upon this crop, and a silk company are anticipating a profitable employment of capital.

In reference to the commercial importance of the Sandwich Islands it may be remarked, that annually above four millions of dollars in American property have touched there, and that the imports for the eighteen months ending August, 1841, since which time the increase has been considerable, reached $674,000, of which the United States furnished $310,000; England, $94,000; the residue being furnished by Mexico, Prussia, California, Chili, China, Society Islands, Russian America, Manilla, New South Wales, etc. The imports from the United States consisted of cotton cloths, prints, chintz, hardware, glass, Britannia ware, copper, cordage, naval stores, furniture, canvass, flour, bread, provisions, wines, spirits, soap, iron, paints, shoes, clothing, books, lumber, etc. The exports from the port of Honolulu alone were, during the same period, $178,130, besides specie to China, and consisted of sandal wood, bullocks hides, goat skins, salt, leaf tobacco, sugar, molasses, oil, arrow root, raw silk, and provisions for vessels. We have seen no later accounts.

In 1841, there touched at Honolulu, the chief island, the following commerce:—American whalers, 50; English, 7; American merchantmen, 19; English, 13; French, 2; Oahuan (native,) 40; Mexican, 1; American war ships, 10, (including the exploring expedition;) English, 1.—Total number of vessels, 143. The native commerce is very considerable between the islands, and even beyond them. Not long since the sovereign purchased an old English ship, and made rather an unfortunate adventure to China, which somewhat checked the ardor of his enterprize in that quarter.

The Polynesian group of Islands are next, with a population of one and a half millions. Passing the equator southward, is reached the island of Papua, inhabitants five hundred thousand, trading with China. Southward still, is Australia, with a colonial population of one hundred and sixty thousand, and a native one of sixty-three thousand. The Dutch Island of Celebes yields abundant rice, and contains three millions of inhabitants. Java contains from five to six millions of souls, exporting annually thirty millions of dollars, principally to Holland, in coffee, sugar, indigo, etc. Sumatra, population two millions; annual export in pepper alone, thirty millions pounds. Borneo contains from three to four millions; rich in soil, and abundant in the minerals, gold, antimony, tin and diamonds. The Philippine Islands have a population of three million five hundred thousand, and belong to Spain; they produce sugar, coffee, indigo, hemp, etc. Singapore has already great commercial note, and it is thought will become the centre of trade in all British India. The population of India is one hundred and eighty-four millions, including Cobul and Affghanistan, lately conquered, and its commerce centres in Calcutta, Bombay, Madras, Ceylon, and Singapore, to the amount of about one hundred and fifty million of dollars annually. The country is now oppressed with debt and taxation under British misrule.

Annexed to the elaborate report of Mr. Breese are a number of interesting and valuable tables, from which, with no little labor to ourselves, we have condensed the following:

Statement of the number of vessels, amount of tonnage, and crews, which entered and cleared at the ports of the following countries, from and to ports beyond the Cape of Good Hope and the Pacific.

	INWARD.			OUTWARD.		
	Ships.	Tonnage.	Men.	Ships	Tonnage.	Men.
England, 1842,	877	329,404	16,698	823	348,724	18,468
United States, 1845,	329	111,180	6,998	367	125,582	8,305
France, 1833,	117	36,040	2,048	117	36,040	2,038
Antwerp, 1839,	7	2,860	125	1	272	12
Bremen, 1841,	6	1,800	100			
Hamburg, 1841,	10	5,000	200	10	5.000	200
The Netherlands, 1840,	188	97,231	5,150	221	113,862	5,625
Russia with China, estimated from the amount of commerce now overland, to require,	50	25,000	1,000	50	25,000	1,000
	1,584	608,515	32,319	1,589	654,480	35,648

Of the English ships inward, 108 were from Mauritius; from East India possessions, 430; from Java, 9; Philippines, 10; other islands 4; China, 73; New Zealand, 4; New Holland, etc., 79; South Seas, Chili, 86; Peru, 42; Whalers, 31. Of the vessels from the United States, there were for Dutch Indies, 11; British Indies, 24; Mauritius, 2; Bourbon, 1; Manilla and Philippine Islands, 7; China, 37; Mexico, 20; Chili, 23; Asia, generally, 4; East Indies, generally, 6; South Seas and Pacific, 228; Northwest America, 4. Of the French ships, 24 were from English India; 3 from Foreign; 4 from Dutch, and 3 from French Indies; from China, 2; Philippines, 3; Peru, 2; Chili, 6; Bourbon, 70.

VALUE OF TRADE CONDUCTED BY ALL THE ABOVE SHIPPING.

		IMPORTS.	EXPORTS.
Great Britain, ...		$85,527,120	$59,187,185
France, ...		16,300,295	8,238,850
Antwerp, no statistics; but the seven ships entered must have averaged more than $100,000, .		700,000	500,000
Hamburg, do. do., for five ships, . .		500,000	400,000
Bremen, do. do., for six ships, . .		600,000	400,000
The Netherlands, . . .		23,527,390	4,702,130
United States, ...		11,438,403	5,443,828
United States from whale fishery, for 1845:			
157,700 bbls. sperm oil, at 88c.,	$4,371,444 00		
272,809 do. whale oil, at 33½c.,	2,864,494 33		
3,195,054 lbs. do. bone, at 33⅓c.,	1,065,018 00		
		8,225,717	
		146,818,925	78,871,993
Add for Russia, overland, with China,		12,048,055	7,581,295
		158,866,980	86,453,288

Of British imports, the value from China is twenty millions of dollars. Of British exports, over six millions pounds sterling are to the East India Company's possessions. The United States imported from Dutch Indies in 1845, $538,000; from British Indies, $1 276,000; from Manilla and Philippines, $653,000; from Chili, $1,133,000; from China, $7,285,000, etc., etc. The whole export at the same time to China being but $2,275,995.

The Chinese conduct an immense trade in merchandize and treasure with Bombay, Madras, and Bengal; also a greatly increasing one with Russia and the Russian possessions. Mr. Breese remarks:

> "This commerce is thus particularly described, to show the ability of the Chinese to increase their commerce, when it can be done by an exchange of their commodities; and this is a striking illustration of that fact, being entirely a barter trade; and when we look at the time and immense expense required to carry on this trade, we can but wonder at its magnitude and rapid increase, showing conclusively that if a free, cheap, and frequent intercourse and communication were opened with them, there would be no limit to the amount of the exchange of commodities.
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> "In Postlethwait's edition of Savary, edition of 1775, he says: 'The Czar strove to accomplish this trade, and because the distance is prodigiously great, and the most part of the way desolate and dangerous, he erected stages at proper distances on the way, so that travellers might subsist at a reasonable expense, and likewise be secure against the attack of the Tartars. In some places he even built cities, where, if due notice was given of apprehended danger from the Tartars, the Russian authorities at these cities and stages are obliged to send troops to convoy the merchants and caravans from one stage to another, without being paid in the slightest degree for such protection. The caravans or companies of merchants sometimes consist of several hundred horses and camels, and bring a large quantity of goods.'"

The whole number of ships employed beyond the Cape of Good Hope, is about 2,000; estimated value, $40,000,000; those employed in the American whale fisheries, valued in 1846, at $20,000,000,—total, $60,000,000. Supposing a railroad constructed, and half the time saved, but half the vessels would be required, and $30,000,000 capital would be saved, besides a yearly saving in wages, interest, etc., of $12,000,000 more, etc.

The periods of travel under this new system, are thus estimated by Mr. Breese:

From England to New York, ...	10 days.
From New York to the Pacific, 3000 miles by railroad, at 30 miles an hour,	5 ”
From Pacific coast to Chang-hae, the heart of Chinese commerce, 5400 miles, ...	16 ”

Total, thirty-one days, or twenty-one days from New York, in place of the voyages now of four and five months.

From New York to Australia, ...	31 days.
” ” ” ” Manilla, ...	24 ”
” ” ” ” Java, ...	25 ”
” ” ” ” Singapore, ...	27 ”
” ” ” ” Calcutta, ...	29 ”

The passage now charged from England to Hong-kong, overland, is $900, and to Bombay, $614; extra luggage, $15 per 100 lbs. The estimated number of passengers to and from Bombay, is four thousand; the English mail costing in addition from $1,000,000 to $2,000,000, total $4,000,000, much of which business it is deemed would be attracted to the road.

We extract a passage again from the Report:

> "The English government have contracted to pay for the transmission of a monthly mail to Chagres, £250,000 per annum, and from Panama to Callao, £20,000 more—equal to nearly $1,350,000 for communicating with their navy and officers in the Pacific and on its coast. Were our road completed, this mail would be sent from England to some of our Atlantic cities, and thence by railroad to the Pacific, and down the coast in steamboats to any place of destination. Steam navigation can be carried on from Oregon or Upper California to good advantage, coals of good quality being abundant in Oregon, particularly on Vancouver's Island; whereas, in southern latitudes there is none, and must be transported at heavy expense from England, for both sides of the continent. Perhaps there is no ocean and no country so admirably adapted for commerce by steam as Oregon and the Pacific, that ocean being the most tranquil of any, while Oregon is supplied abundantly with both timber and coal suitable for fuel and ship building; and on the Asiatic coast are islands numerous and large, along the route to China and to India, so that a voyage may be made from Oregon to Japan, to and along the coast of China and to India, almost without being out of sight of land. All the north of China is also well supplied with good coal down as low as Formosa, in latitude about 36 deg., but none below that.
>
> "Neither has any estimate been made for passengers, for business, or commerce, of the population which will, if the road is built, settle on its borders, or for any increase of commerce with Japan, China, etc., when they will be brought almost at our doors."

The following is the estimated cost of the road:

For grading, bridging, etc., except the bridges across the Mississippi and Missouri rivers, for 2,630 miles, say 5,000 miles, . . .	$13,151,000
For two bridges across the Mississippi and the Missouri, .	800,000
For superstructure for a single track, sidings at stations, depots and turn-outs, say for 2730 miles, at $10,500 per mile, . . .	28,665,000
For engines, cars, wagons for freight, depots, etc., . .	10,276,600
Contingencies, etc., ...	2,000,000
	54,892,600
As the road will not produce sufficient from its earnings to keep it in repairs and operation to its completion, therefore add for that purpose, ...	15,000,000
Total estimated cost, when completed and in operation, . . .	69,892,600

We leave the subject to the reader in all its aspects, bearings and results. The day will no doubt come when what the best of us think mere matters of romance and fancy, or at least find it difficult to think otherwise of, will become in this instance, plain, dull, plodding matter of fact. We hope so for our country, whose destiny must be great in any case. We have allowed full justice to the claims of all the projections which seek the Pacific across our continent, preferring and adopting, and advocating, THE GREAT SOUTHERN ROUTE THROUGH TEXAS, MEXICO AND CALIFORNIA.*

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* A ROUTE TO SAN DIEGO.—THE VALLEY OF THE PASO.

Since the above was written, a route has been proposed at Washington, which leaving the Mississippi river and passing through Texas, strikes the Rio Grande near

PASSAGE BETWEEN THE OCEANS BY SHIP CANAL.—BY THE EDITOR.

After discussing the question of railroads, we should not consider our labors yet complete without a reference to the proposed canal communications which have so long attracted public attention. No American can feel other than gratulation in such a prospect as is afforded here, and we in New Orleans are more deeply interested than our fellow countrymen any where else. Our city instead of being the great mart of southern commerce, in the event of such a communication, from its proximity, would of necessity become the great mart of American commerce, and perhaps the greatest commercial mart in the world. It would be easy to show this with something of the certainty of figures.

The Hon. G. M. Dallas, Vice President of the United States, it is known, has lately made an interesting and valuable contribution upon

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El Paso, and pursues this valley of the Gilae, to San Diego, a point on the Pacific southward both of St. Francisco and Monterey. It will be remembered that this line from El Paso, was suggested during the last session of Congress, by Mr. Calhoun, as a proper one within which to conduct our military operation against Mexico.

The Washington Union of the 13th May publishes an interesting letter from a resident of this country, descriptive of its soil and general character, which may very well be referred to by us on this occasion:

"The settlement of El Paso extends from the falls of the Rio Grande, on the north to the Presidio, on the south,—a distance of twenty-two miles,—and is one continuous orchard and vineyard, embracing in its ample area an industrious and peaceable population of at least eight thousand. This spacious valley is about midway between Santa Fe and Chihuahua, and is isolated from all other Mexican settlements by the mountains that rise on the east and west, and close into the river on the north and south. The breadth of the valley is about ten miles. The falls of the river are two miles north of the "Plaza Publica," or public square, and afford sufficient water power for grist and saw mills enough to supply the entire settlemement with flour and lumber. The most important production of the valley is the grape, from which are annually manufactured not less than two hundred thousand gallons of perhaps the richest and best wine in the world. This wine is worth two dollars per gallon, and constitutes the principal revenue of the city. The El Paso wines are superior in richness of flavor and pleasantness of taste to any thing of the kind I ever met with in the United States, and I doubt not that they are far superior to the best wines ever produced in the valley of the Rhine, or on the sunny hills of France. Also great quantities of the grape of this valley are dried in clusters and preserved for use during the winter; in this state I regard them far superior to the best raisins that are imported into the United States.

"Pears, peaches, apples, quinces, and figs, are produced in the greatest profusion The climate of this country is most salubrious and healthful. The inhabitants here suffer more from the depredations of the Apaches than from any other cause. They are frequently robbed of all they possess, in one night, by the incursions of these lawless plunderers. A few companies of dragoons would, however, soon drive them from their hiding places in the mountains, and put an end to their depredations. Add to the fruits and wines of this rich valley a vast quantity of corn, wheat, and other small grain, and the surplus productions of the place will, under its present state of agriculture, amount to near one million of dollars per annum. What, then, would be the amount of the surplus under the advantage of American agriculture?"

this subject, from which and other data, viz., the work of Mr. Greenhow, the surveys of the French and Mexican governments, now in our possession, we will draw for a few particulars.

It is proposed that one of the stipulations in the treaty of peace to be made with Mexico, shall be a right of way in favor of the United States through the appropriate parts of Mexican possessions, for this canal. Such a stipulation should be insisted upon, and will meet the unanimous approval of all nations.*

Four independent routes for a canal have been proposed. 1. By the Isthmus of Panama or Darien; 2. The Lake of Nicaragua; 3. The river Atrato from the Gulf of Darien; 4. The Isthmus of Tehuantepec. Others were suggested long ago by Humboldt less practicable.

1. THE PANAMA.—This is the narrow neck of land which connects the two Americas, and is a province of New Granada, between the latitudes 8° and 10° N; general breadth, 40 miles; narrowest, 28; population of province, 72,000. The Andes afford many gaps or passages here. The rain storms are tremendous and protracted. Many gold mines were formerly worked in the Isthmus. In its surface there are few obstacles to a ship canal, but the country affords no good population or laborers, the heat intense, the wet season eight months long, and the health very doubtful. The commercial utility of such a communication, Mr. Greenhow in his history, thinks will be scarcely sufficient to warrant the enormous expense.†

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* "In effecting the cession of the Isthmus, therefore, by subdued Mexico, we need apprehend the jealousy of no power worthy of notice. Sir P. Campbell Scarlet, in urging the British government to undertake the Panama route, makes the following shrewd and correct remarks, the tone of which falls in very appropriately with our American view: "Could any other nation blame England for acquiring by the terms of such a treaty, the possession of a narrow neck of land, for the sole purpose of rendering its extraordinary position beneficial to the world? Could France, who, under color of resenting a national insult to her consular representative, is pushing her conquest in Morocco, and will probably in the end be appeased with nothing short of the dominion of all that vast territory lying between the Pillars of Hercules and the confines of Egypt? North America is too wise to object to the completion of a design, no matter by what nation, which holds out to her a boundless prospect of future wealth.' "

†"The climate of the Isthmus of Panama is acknowledged to be dangerous, a fact confirmed by the accounts of Humboldt and other writers. The fear of its unhealthiness was one of the causes that prevented the assembling of Congress there, after the emancipation of the states of Spanish America had been convened, in order to establish a system of general policy suited to the interests of the American nations. The same fear prevented the egineers, Lloyd and Falmarc, remaining in the Isthmus a sufficient time to complete the labors of the exploration, which they undertook in 1827 and 1828, by order of General Bolivar, and in a succeeding expedition Lloyd lost his life. To this greivous cause is likewise to be ascribed the paucity of population and the want of the necessary means of existence in that Isthmus, and as the climate does not permit the increase of the former there is no possibility of augmenting the latter.

"The Isthmus of Panama is again being explored, but it has been lately estimated

2. THE LAKE OF NICARAGUA is situated between eleven and twelve degrees north latitude; its extent is large, and its surplus waters are carried to the Carribean sea by the river San Juan; navigable during the rains, according to McCulloch, throughout its whole extent. From four to twelve feet of water is always afforded in the Rio Juan, and it is proposed to improve its navigation, or to construct a canal, from the Lake Nicaragua, which is adapted to ships of largest burthen to the Pacific fifteen and three-fourths miles, through a country not elevated in general more than nineteen feet. The lake's level at surface is 134 feet above the Pacific, and the difference of levels between the two oceans is twenty or twenty-two feet. The immense obstacle in the way of this route Mr. Greenhow states, is that one mile of tunnel and two of very deep cutting through volcanic rock, in addition to many ocks, will be required between the lake and the Pacific.*

The most important of all these projections, and the one of the greatest interest to Americans from its vicinity and practicability, is the one which crosses the ISTHMUS OF TEHUANTEPEC: this we will now examine.

The Rio Guacsecualco or Coatzacoalcos has its mouth in the Gulf of Mexico in the Mexican province of Vera Cruz, seven hundred miles from the mouth of the Mississippi river. The route across the isthmus follows the course of the river as far as Tarifa, at which town a canal or railroad will begin, passing to the western lakes, which are discharged into the Pacific. The width of the isthmus in this part is one hundred and thirty-five miles, and its central mountainous chain exhibits a depression in the line of the route. For twenty-five miles a plain is formed whose streams flow north and whose southern bounds are a chain of hills separating the rivers flowing north and south. There are passes or gates here such as that of Chivola and Tarifa. The northward streams enter the Guascualco, the southern in the

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that even should the work be at all practicable, its accomplishment would require the united efforts of the principal nations of the world, and an expenditure of at least 200,000,000 of francs."

* "From the report published by command of the government of the state of Nicaragua in reference to the exploration of that Isthmus, effected during the years 1837 and 1838 by Mr. J. Bailey, it seems that the course of the river St. John with all its windings is about one hundred and fifty kilometres in length, six and a half of which are obstructed by four rapids, caused by banks of rock stretching across the whole width of the river. These obstacles and the long course of the river were considered such formidable impediments as to suggest the construction of a canal as an easier operation that that of rendering the river itself navigable.

"It has been calculated that this undertaking would cost one hundred and fifty millions of francs; but even this sum is probably much smaller than that which would be required

Chicapa, which is discharged in the lake east of Tehuantepec on the Pacific.

We have before us a volume of two hundred pages published in 1844 in London, with a large number of maps containing the history of routes and the results of all the surveys and examinations yet given. It is prepared by Gaelana Moro, appointed chief engineer in 1842 by Don Jose de Garay, who had obtained from the Mexican government the exclusive privilege of erecting the work, the means of transport, right of toll for fifty years, and the waste lands on either side of the line thirty miles wide. The passage to be open to all nations and considered *neutral territory.*

The history of this passage of Tehuantepec is curious enough. Cortes was in anxious search of a strait between the points of the two oceans, and he wrote to Charles V.: "I have received information as well of the riches of the country as that in the opinion of many navigators there exists a strait leading to the opposite sea." He afterwards writes:—

> "Should we, with the Divine assistance, so hit upon this strait that the navigation from the Spice countries (the East Indies) to the kingdoms of your Majesty would become excellent and shorter, so much so that it would be two-thirds less than the present navigation, and without any danger or risk to the ships in going and coming, because they would always make the passage through kingdoms and possessions of your majesty; and in case of any emergency they could repair damages, withou danger, in whatsoever port they might make for that purpose, as being in your Highness's own states."

In 1824 the state of Vera Cruz and the federal government of Mexico appointed a commission of survey, and Ortiz and Orbegoza engineers. The results of this movement are scarcely worthy of note. Ortez thus describes the Guacsecualco river:—

> "The bar of the Coatzacoalcos is permanent and constant, forming two canals or channels; that to the left or the west, has on it in the rainy season (that is, from the beginning of June to the end of February) three and a half fathoms of water, or twenty-one feet, these being increased to twenty-three at high tides That on the right or to the east, has two and a half fathoms, or fifteen feet, and both during the dry season lesson three or four feet, the principal channel maintaining itself at not less than eighteen feet, except perhaps under extraordinary circumstances. When a vessel would effect an entrance, with a view only to greater security, the fifteen feet channel should be preferred, because it has less current in it, and is probably wider, and because, when the sea-breeze blows hard, the currents are rapid in the great channel setting from east to west, and without taking a pilot it would be difficult if not dangerous to be entered by vessels of great draft of water."

Signor Moro declared in his report in 1844, referred to in a previous page:—

> "It will be seen that as far as the island of Tacamichapa, a distance of 55 kilometres, (13 Mexican leagues nearly,) or at least up to the confluence of the Coachapa the Coatzacoalcos is navigable in all seasons and for every class of ships, forming convenient as well as most secure harbour. Schooners might ascend as far as Horaqueta by the branch of Mistan, and to Hidalgo-titlan and somewhat higher by that of Apotzongo.
>
> "From the battery on the left shore at the entrance of the river, a clear chann

is to be seen through the break in the bar which we are informed never varies in position; and although we knew well that there is a sufficient depth of water for large ships (since but a few years ago two large French vessels with colonists had entered the channel), we examined it ourselves in an open boat, going out to the distance of 3000 metres, where we found 15 metres water with a rapidly increasing depth. The shallowest water we found on the bar was 6.2 metres, and we were not certain that we had gone over the deepest part of it. A North American pilot who resides in the establishment of Mr. Baldwin, assured us that he had many times crossed the bar, and that he had never found less water upon it than 21 English feet, equivalent to 6.4 metres. This account nearly agrees with our own observation, and confirms the old opinion that the bar does not shift, a circumstance easily explained since the current of the river is slow, and the tides are almost imperceptible at its mouth.

"In the vast and dense forests which cover the shores of the river and its tributaries, the finest ship-building timber as well as dye woods are to be found in profusion; those principally seen in the greatest abundance are the tall pine trees of the Sierra de Chimalapa; the noble cedars which line the length of the river especially above the stream of the Perlas; superb mahogony, and other hard and close-grained trees, such as Javicues, Huayacanes, Macayos, and Paques, from the latter of which curve and fashion timbers were cut in the time of the Spanish government for vessels of the largest dimensions."

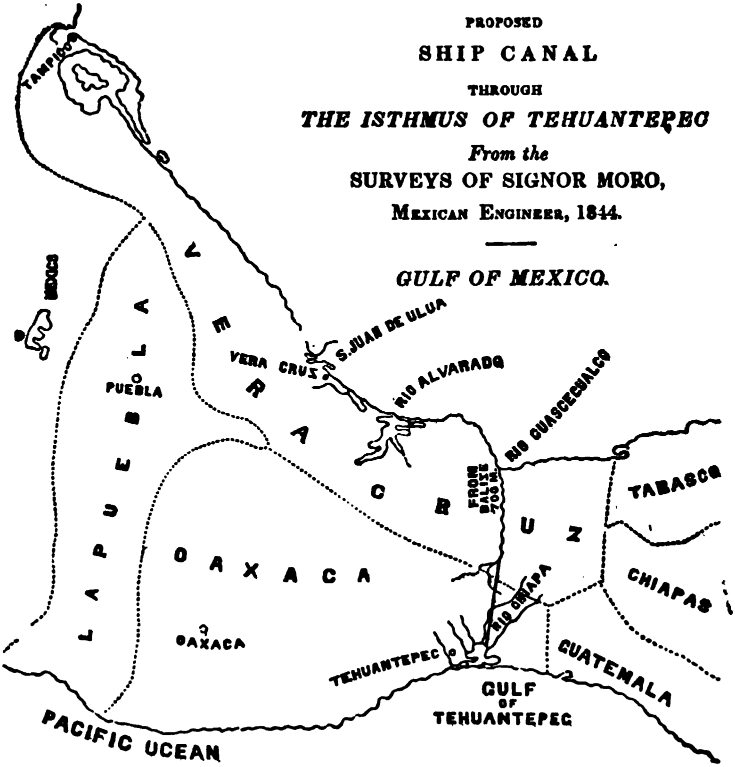
The Spanish engineer then expresses the conviction that the whole extent of the Coatzacoalcos in the direction desired might be made navigable by artificial means. Among these are engines for deepening, narrowing the river at certain points effected by means of dykes constructed with solid piles, straightening the course and checking velocity by locks. The difficulties of all of this were not supposed either arduous or expensive. Once overcome, the point is to construct the canal or to convey a sufficient quantity of water to an elevated point whence it may be distributed and directed to the Coatzacoalcos on the one side, and on the other to the upper lagoon and the Pacific. There are five independent projects to effect this, all of which are regarded practicable, but requiring more particulars in a description than we have space to give.

On the Pacific coast of Tehuantepec, the Bocabara constitutes the pathway between the ocean and the "lakes or lagoons which flow the rivers Chicapa and Ostuta. This passage is in depth twenty-four feet but obstructed at its entrance by a bar of nine feet depth only. This obstruction it is proposed to remove.

The estimated expense of this enormous work as made by the Mexican commissioners, is as follows, and is based upon the cost of the Caledonian canal in Britain:—

Cost of 150 locks at 200,000 francs - - - - - -	30,000,000
" 80 kilometres of canal at 475,000 francs - - -	38,000,000
" 25 kilometres of trench at 10 francs per cubic metre - -	10,000,000
" 5 kilometres of trench at 15 francs - - - - - -	3,000,000
Regulation of the Coatzacoalcos, lakes and Boca barra - - -	4,000,000
Total cost - -	francs 85,000,000

For the subjoined map we are indebted to the surveys of Signor Moro and his larger maps, which, in connection with a description of the country embraced, will have general interest with our citizens.



PROPOSED
SHIP CANAL
THROUGH
THE ISTHMUS OF TEHUANTEPEC
From the
SURVEYS OF SIGNOR MORO,
MEXICAN ENGINEER, 1844.

The isthmus of Tehuantepec is included in the Mexican provinces of Oajaca and Vera Cruz.

Oajaca contains 31,000 inhabitants, very few being Europeans, the rest are principally natives, some of whom are represented as superior in civilization to those of any other part of the republic, being intelligent, industrious, docile, and joyous. There is a "mild and healthy climate precisely in those localities where the assistance of European workmen would be required." The natural productions of Oajaca are among the minerals, iron abundant, and of the vegetables, cotton, sugar and indigo will grow; the cedar, the mahogony, amber, and ebony are abundant; the pines attain to immense diameter and height. Indigo, maize, and sugar are now in cultivation.

The province of Vera Cruz contains 21,000 inhabitants, three-fourths being Indians engaged in agriculture. Its health in general is recommended by the circumstance that in 1830—

"Three expeditions of Europeans were sent to the Coatzacoalcos for the purpose of colonization. By a most unaccountable want of foresight the unfortunate colonists were abandoned from the moment of their arrival, and were left without provisions, without shelter against the inclemencies of the season, and without assistance of any kind. Although everything seemed calculated to favor the developement and progress of an epidemic, no disease of this kind appeared among them, for these who died perished more from misery and famine than from any other cause."

Art. V.—COMMERCE AND AGRICULTURE SUBJECTS OF UNIVERSITY INSTRUCTION.

"*Resolved*, That this Convention cannot but view with deep regret, the neglect of all commercial pursuits which has hitherto prevailed among the youth of our country, and which has necessarily thrown its most important interests into the hands of those who by feeling and habit are led into commercial connections elsewhere. This Convention, therefore, cannot too earnestly recommend the speedy adoption by all their fellow citizens of measures *to introduce* COMMERCIAL EDUCATION *among our youth;* to train them up to habits of business, and thereby *to establish a body of merchants whose every interest and feeling shall be centered in the country which has reared and sustained them.*"—*Convention of Southern and Western Merchants held in Augusta, Georgia*, 1838.

"This, however, demands, what we have not in all parts of the State, *an* EDUCATED CLASS OF HUSBANDMEN. When I say educated, I do not mean "*book learned farmers;*" I mean *men thouroughly trained to their business.* The great fault of education in South Carolina is, *that it has no particular application.* The clegyman, the lawyer, the physician, the merchant, the mechanic, and the farmer are all educated alike. The mere statement of the fact shows the defect. How is it to be remedied? We have not schools arranged for every department of life, and perhaps such are not always desirable. But with suitable attention on the part of parents and guardians, education might be so directed as to fit a man for his business, instead of making him a prodigy of learning, *without one particle of common sense.* The future planter and farmer needs but the careful and judicious training of home to be prepared for his station."—*Speech of the Hon. J. B. Oneall before the Agriculturists of South Carolina.*

It is not a little extraordinary that while no effort is spared in conducting the education of our rising citizens through all the delightful fields of classic literature, the abstruse departments of mathematics, the profound learning of the rhetoricians and the scholars, in the most favored sections of the country, scarcely anything is ventured for the benefit of the great mass who are reared and intended neither for the professions nor the politer walks of literature, but the plodding, busy, active life which opens upon them as they step from college walls and enter the world beyond.

A century or two ago, this were easily explained. Learning had found for itself a niche far upward from the vulgar gaze, and frowned down upon the "chapmen," the "pedlars of wares," (*i. e.*, merchants,) and the rude tillers of the soil, "serfs" and "stalwart yeomen."

But labor has not remained under this ban, and enterprise has overthrown this dynasty of monopolizing ranks and orders. The practical pursuits have vindicated themselves, and occupy ground as high as those which trace the stars and compute the precession of the equinoxes. Merchants are no longer "chopmen," cultivators of the soil lose the condescending "yeomen;" "sooty artisans" occupy the chair of the Lord Mayor of London. The statue of the man is measured by the original, and no longer by the accidents of birthplace, position, and pursuits.

The true purposes of education are to fit and qualify men for those occupations in life upon which they are urged by inclinaton or necessity. It is true that there is a certain discipline of mind and an enlarged capacity to act induced by almost any character of study. This renders education desirable even when *practically* misdirected. But when it is considered that life is short and its duties and obligations numerous, few will object that mental discipline, enlarged capacities, and real, substantial and practical attainments, suited precisely to the relations in which the individual finds himself towards society, should be secured hand in hand together, if such a thing be possible.

A direction like this given to education, does not, as many suppose, militate against the high and distinguished pursuits of science and letters in which the most celebrated universities in the world are engaged. This is right and proper, and any objection would argue a sad appreciation of the ultimate aims of learning. Sage professors of the law, grave and learned divines, doctors of medicine, natural philosophers, mathematicians, erudites in general and without definite object, all congregate here, honoring and ornamenting human nature, and influencing silently, slowly, yet surely the progress of the world.

There should be such universities and institutes of learning, nay, more, there should be none established anywhere in which these high callings of mind are altogether or even in any considerable degree neglected. It is our part and object to insist only that they do not monopolise all attention, and exclude as unworthy of note or consideration the studies and knowledge which belong to departments of life equally important, more numerous, and in every respect as capable of being illustrated and improved by professorships and instruction.

It would be common place enough to speak of the importance to an agriculturist to be able to bring to his aid the principles which science is every day elaborating or developing from the crucible or the retort in relation to the earth, its soils, capacities, and growths, and all the laws which regulate them. It would be equally common-place to remark similarly upon the artist, or upon the merchant whose mission indeed, brings him into contact with all the world, and whose enterprizes depend frequently for success upon circumstances and events which are taking place in every quarter of the world, seeming full often to ordinary observers of trifling moment. These points will be seen particularly hereafter, and they are but hinted at here to show that though taken for granted amongst men, the extraordinary fact noted in the opening of this article has still been permitted to exist.

Within a very few years some interest would indeed appear to have been excited in relation to *agricultural* instruction exonerating this pursuit from the censure of entire indifference and neglect. We shall but casually refer to this before proceding to the department of our subject which occupied a first place in inducing the present essay—COMMERCIAL EDUCATION.

"Agricultural schools," says Dr. John Bachman of South Carolina, "first had their origin, I think, in Germany; they were next introduced into France and Switzerland, and are now springing up in every part of Europe. The Rensalaer school near Albany in New York, is also an agricultural one. The most complete institution of the kind I had an opportunity of examining, is called the Institute of Agriculture and Forestry, at Hohenheim, near Stautgard. I observe that it is characterised in the British Farmers' Magazine, as the most complete agricultural school in Europe. Here, in addition to all the studies usually pursued in academies, all the operations of agriculture and horticulture are performed by the students in the open air, under the supervision of teachers qualified to undertake, note down, and record every observable fact and traceable cause. Here are delivered regular courses of Lectures in geology, mineralogy, and chemistry; on soils, water, moistures, vapor, fermentation, gases, their extraction, mutual attraction, condensation, and results. Instructions are given and elucidated by experiments on light, heat, electricity, galvanism, magnetism, &c. These are all employed by nature, and are in incessant operation. They constitute the class of great natural agents. Botany in the most comprehensive sense of the term, forms a very important feature, which extends to the physiology of plants, their uses, medical, and other virtues. Entomology is also taught as a science connected with agriculture, and the habits of insects, as well as birds and quadrupeds, are studied in order to guard against their depredations or to benefit by their labors."

Professorships have been endowed from time to time in colleges and universities applied to agriculture; one as early as 1790, at Edinburgh, another at Oxford in 1840, whilst upon the continent may be mentioned those of Liebig at Gessen, Rosa at Berlin, and Mulder at Utrecht. In the United States we have had lately one or two similar endowments.

Statistical and commercial information or such as is necessary in the conduct of the mercantile operations of a country, have been least fortunate of all in attracting the regards of scholastic institutions. As separate and distinct branches of university instruction,t hey have until very lately scarce had a place, and even now to but a limited extent. We have educated every class of the community, most of them specially, except our merchants, and these we leave to glean what they can upon the mart or in the *bourse*, without any of that light and instruction which previously imparted would cause them to adorn their places and advance their country. Can it be wondered, then, that the mercantile classes yield to the nation so few influential and leading citizens, men of the stamp of Roscoe, Cœur, or Ricardo! Can it be wondered that trade is so often stigmatized a "a gainful craft," instead of winning as it deserves the appellation of a liberal and civilizing pursuit.

Does any one under-estimate the importance of the mercantile calling, and the surpassing influences of commerce over all the most interesting concerns of the world? It was commerce that engendered the spirit of liberty, after creating the western world; by breaking up the monstrous systems of colonial vassalage, and teaching men that in some positions at least, they are capable of self-government and the highest indulgence of freedom unrestricted. Who shall prescribe a limit to the education that is fitting for the man who would guide the extensive operations of foreign trade? Ignorance and low thrift do often most signally succeed in it, and intelligence is sometimes at fault and baffled in its own movements, but shall it be argued hence that the former is at all to be advised in the mercantile adventurer! Will one affirm this?

We shall directly see the course of investigation and research which should be pursued by the liberal merchant. If in the career of active, busy life, he is restrained from this, how much stronger the argument for previous preparation? The graphic pen of Addison will show far better than we could hope, what it is that commerce must do among men, and what it is forever doing:

> "Nature seems to have taken a particular care to disseminate her blessings among the different regions of the world, with an eye to the mutual intercourse and traffic among mankind, that the natives of the several parts of the globe might have a kind of dependence upon one another, and be united together by their common interest. Almost every degree produces something peculiar to it. The food often grows in one country, and the sauce in another. The fruits of Portugal are corrected by the products of Barbadoes, and the infusion of a China plant is sweetened by the pith of an Indian cane. The Philippic islands give a flavor to our European bowls. The single dress of a woman is often the products of an hundred climates. The muff and the fan come together from the different ends of the earth. The scarf is sent from the torrid zone, and the tippet from beneath the Pole. The brocade petticoat rises out of the mines of Peru, and the diamond necklace out of the bowels of Hindostan.
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> "If we consider our own country in its natural prospect, without any of the benefits and advantages of commerce, what an uncomfortable spot of earth falls to our share! Natural historians tell us that no fruit grows originally among us, besides hips and haws, acorns and

pig-nuts, with other delicacies of the like nature, that our climate of itself and without the assistance of art, can make no further advances towards a plum than to a *sloe*, and carries an apple to no greater perfection than a crab. That our melons, our peaches, our figs, our apricots and cherries are strangers among us, imported in different ages and neutralized in our English gardens, and that they would all degenerate and fall away into the trash of our own country if they were wholly neglected by the planter and left to the mercy of our sun and soil. Nor has traffic more enriched our vegetable world than it has improved the whole face of nature among us. Our ships are laden with the harvest of every climate; our tables are stored with spices, oils, and wines; our rooms are filled with pyramids of china and adorned with the workmanship of Japan; our morning draught comes to us from the remotest corners of the earth; we repair our bodies by the drugs of America, and repose ourselves under Indian canopies. My friend, Sir Andrew, calls the vineyards of France our gardens; the spice islands our hot-beds; the Persians our silk weavers; and the Chinese our potters. Nature, indeed, furnishes us with the bare necessities of life, but traffic gives us a great variety of what is useful and at the same time supplies us with every thing that is convenient and ornamental. Nor is it the least part of this our happiness, that whilst we enjoy the remotest products of the north and south, we are free from those extremities of weather which give them birth; that our eyes are refreshed with the green fields of Britain, at the same time that our palates are feasted with fruits that rise between the tropics.

"For these reasons there are not more useful members in a commonwealth than merchants. They knit mankind together in a mutual intercourse of good offices, distribute the gifts of nature, find work for the poor, add wealth to the rich, and magnificence to the great. Our English merchant converts the tin of his own country into gold, and exchanges his wool for rubies. The Mahometans are clothed in our British manufacture, and the inhabitants of the frozen zone warmed with the fleeces of our sheep.

"When I have been upon the 'Change, I have often fancied one of our old kings standing in person where he is represented in effigy, and looking down upon the wealthy concourse of people with which that place is every day filled. In this case, how would he be surprised to hear all the languages of Europe spoken in this little spot of his former dominions, and to see so many private men who in his time would have been the vassal of some powerful baron, negotiating like princes for greater sums of money than were formerly to be met with in the royal treasury! Trade, without enlarging the British territories, has given us a kind of additional empire; it has multiplied the number of the rich, made our landed estates infinitely more valuable than they were formerly, and added to them an accession of other estates as valuable as the lands themselves."

The University of London, established a few years since, being deeply impressed with the truths we have developed, endowed a department of statistical and commercial knowledge, to be filled by able professors, and for the benefit of the rising merchants of that metropolis.

The city of New York, another great commercial mart, attached to its University a professorship of statistics, etc., filled for some time by the learned Dr. Lieber, now of the South Carolina College. With these exceptions we know of no institution which has given any very special attention to the matter.

It will be hardly necessary for us to dwell much at length upon the importance of statistical knowledge, as a study, although indeed, we do sometimes hear it idly depreciated. Abstract arithmetic is as true as the laws of nature, and in its application to matters of fact, to the operations of men, it is as certain and reliable, if not more so, than any this kind of knowledge.

Statistics have only attained any importance as a science within the last century. It was named by Archenball, of Prussia, about 1750. His work was followed by Schlossa's "Theory of Statistics," and Newman's "Outlines of Statistics;" many others followed. At the present time there are Bureau's of Statistics in Prussia, Austria, Bavaria, Wurtemburg, Naples and Sardinia. A similar office was established in Britain, in 1832, and more lately in the United States. There are Statistical Societies in England, France and in Saxony.

The present Secretary of the Treasury, in arranging the details of the Tariff of 1846, notwithstanding all the aids and facilities of a residence at Washington and access to documents of every character, found it necessary to propound interrogatories to every practical interest from all portions of the Union. Who were the men to answer these inquiries; to whom did the government look, and from whom did the most satisfactory responses come? To show the extent of these inquiries, and the information necessary to satify them, we will introduce a few: Capital invested in manufactures in your State? Amount in materials? Profit on capital? Annual quantity of manufactures? Raw materials used? Persons employed, men, women or children? Hours of work? Period of year? Rates of wages? What manufactures exported to foreign countries? Rates of protective duty necessary, if any? What amount agricultural products consumed by operatives? etc., etc. These are but random selections from fifty or sixty propounded, and which, if properly and fully answered by all sections, would have furnished a body of information incalculably useful to the citizen, the merchant, and the legislator.

Indeed, remarked with great truthfulness, the Hon. Edmund Burke: "As the Patent Office is now regarded as the general head and representative of the useful arts and the industrial interests of the country, it might be employed in collecting the statistics of all the great branches of national industry—agricultural, manufaturing, commercial and mining. Without knowledge of this character a nation knows but little of its capacity, its resources, or its power; nor without it can the legislator perform his duties in relation to the interests of his country, with that sound wisdom and judgment which the importance of his position and the consequences of his official action, good or evil, demand. In almost every other enlightened nation great attention is paid to the procuring of the most copious statistics in relation to all its interests. In this country, it must be confessed, they are comparatively meagre. With suitable action on the part of Congress, aided by the co-operation of the several States, this desideratum might be supplied, and the mighty resources of our country become known as they are developed. In the absence of the action of Congress and the State legislatures upon the subject, it is desirable that voluntary associations of citizens should be formed in the several States and districts of the Union, with a view to the collection of statistical knowledge of all kinds."

Mr. Chambers, of the Edinburgh Journal of Education, has beautifully shown the aim, object, and achievements of the department of statistics, which si worthy of a detailed reference:

"Statistics is a science of comparatively late date, but it is one which promises to be of considerable service to mankind. Whatever can be ascertained by taking down numbers and instances and making summaries of them, may be said to be a proper object for this science. It is generally applied to such matters as the amount of population, the rate of mortality, the progress of commerce and manufactures, and the increase or diminution and crime. The benefit of coming to correct reckonings about these matters must be obvious, but we shall cite one instance to make it quite clear. From accounts which have been kept of burials in England for the last fifty years, it appears that the rate of mortality, or number who die yearly, in comparison with the whole population, diminished regularly down to 1831, but has since then been a little on the rise, showing the condition of the people at large (mortality depending on condition) was improving until that time, but has since been slightly declining. When such a fact as this is ascertained, statesmen are put on the alert to discover, and if possible remove the causes. Thus it is seen a nation may be much benefited by taking a census, and keeping of a correct register of deaths. The value of statistical operations, then, is manifest. Statistics may be said to be the account book of a nation for ascertaining the state of its affairs. One which keeps no statistical records may be said to be like a merchant who does business without keeping a ledger or ever coming to a balance. Statistics bear in like manner upon many of the interests of private life. Of this we trust to be able to give some notable instances in the sequel.

"It is one of its least utilities that it tends to substitute real and distinct knowledge in many matters for vague and general impressions. There is one other service which statistics has rendered of a more remarkable, though perhaps less directly useful kind than the above. Almost all the occurrences which depend on the human will, happen irregularly as to time, as far as an individual is concerned. A man com-commits some particular crime, which he is not likely ever again to commit in his life; for instance, an assault, with violence. It was to all human apprehension the merest chance which brought him into the circumstances which provoked or prompted him to commit the offence. Yet, strange to say there is no offence so accidental as to individuals, or so unlikely to occur above once in an ordinary man's lifetime, but what statistics finds it to occur with the greatest regularity, in a certain range of individuals, and a certain range of time. The returns of a particular crime in such a country as England or France, are nearly the same for each successive year. In all classes of occurrences which appear occasional as to individuals, the same uniformity is observed when we go to sufficiently large numbers, even in the number of letters put into the post-office without addresses; there is a precise uniformity, if we take the office of a large city, and reckon year against year. Thus to find order in the most casual of things, even in the wayward and fleeting movements of the mind, affords highly interesting food for reflection."

A State University being now in course of organization in Louisiana, it seemed but fitting that we should bespeak on the part of the great commercial interests of New Orleans and our country, a share in its results more special than has hitherto been contemplated. The University is to be located in the city of New Orleans, a site destined, in the apprehension of the calmest reasoner, to be one of the greatest, if not the greatest, commercially, in the world. It is peculiarly fitting that such a city, which lives and has its being by commerce, whose merchants are almost without number, prospering and accumulating wealth beyond precedent; it is peculiarly fitting that such a city, we say, should lead the way in establishing what our whole Union requires, *a department of Collegiate and University Education, addressed entirely to the commercial classes.* Could any department be conceived more important, or confer more inestimable advantages?

Should the State be entirely looked to in this matter, or should not the liberal and enterprising merchants, for there are such here, take the matter in hand themselves, and by proportionate subscriptions raise a fund necessary to secure so desirable an end. Even single individuals in other communities have assigned a portion of their wealth to the purposes of education in the endowment of professorships in some branch of knowledge, and shall the merchants be found less liberal than these? A portion of their gains could never be more honorably expended than in this high and benevolent public duty. We have conversed with leading merchants here, who agree heartily with us in these views, and we call upon them now to *act* in consonance with their convictions.

In the bill chartering the University, there is a clause which we will insert, and which clearly extends an invitation to our public spirited and wealthy citizens to co-operate in carrying out effectually its organization. Who will lead the way from his abundance in aiding the first institution of learning which Louisiana and New Orleans have ever had worthy of themselves?

> "Sec. 12. * * * That said administrators may attach to the University such other institutions, literary or scientific societies, schools and professorships, as to them may seem advisable, all of which, so far as relates to instruction, shall be under the control of the Board of Administrators."

How many liberal citizens of large fortunes acquired in the conduct of commerce, have we who now in the evening of their days, are disposed to enjoy the tranquilities of life, and that peaceful repose which belongs to the consciousness of a life not unduly spent. Have not these men a deep interest in the prosperity of a city with which they have grown, and which they have seen expand through every crisis? Is not an attachment natural, and a disposition to be felt benignantly in it, even after their day and generation have passed, and others, their descendants, are shoved upon the boards? We mark this in the liberal testamentary bequests which are occasionally made for public charities. But with a disposition to be useful and to serve posterity, is it well to await the close of life, and appropriate fortune only when it can no longer be enjoyed? The dead man enjoys not the charities he has endowed. It may be a sense of duty and a pure motive, to endow them, but how much better if done in life, under one's own, the best of all administrations, and with the satisfaction accruing each day of having done well and of deserving well of our fellow-men and of our Maker. Many of the good intentions of men, if left altogether to the execution of others after death, are defeated to a great extent, as we have had some notable examples in our country, the most prominent of which may be mentioned, the case of Stephen Girard.

However this commercial branch of the University be endowed, whether by a single individual or by the mercantile classes, let us inquire a little into all the purposes which it should be made to subserve, and the mode of its organization.*

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* THE UNIVERSITY OF LOUISIANA.

The medical school of this has been long in operation; the law department has been organized. Much has been said about the literary department, but nothing as yet accomplished.

In addition to the professorship advocated by us, it becomes the State immediately to establish the following others, which are conceived sufficient for the present, And first, such a professorship would tend greatly to elevate the standard of commercial character. It would induce liberality, equity, and enterprise; for by expanding and enlarging the views of individuals, it would enable them to move on a system commensurate with the wants of the country. All petty rivalry and jealousies, the growth of narrowed and contracted views, would at once be excluded, and the sordid and gainful spirit which has often been the reproach of trade, shrink away in the higher and nobler aims taught to the aspirant for commercial eminence and success.

Second, it would attract the attention and the interest of thousands of youth who come among us every year, or who reside among us, and are engaged in the busy pursuits of the metropolis, industrious, enterprising, ambition of success, yet surrounded by difficulties and discouragement and temptations, to lapse into the dissipations and excesses of a luxurious city, and win them insensibly to the prosecution of those studies so important and so necessary to distinction. To them the doors of the University would no longer be closed. For them, too, it becomes an *alma mater*.

Third, such a professorship would, by the library necessary for it and the collections it could at all times be engaged in making of everything bearing in any way upon the subject in its charge or distantly connected, furnish at all times to our city, ever ready to be consulted and used by merchants, statesmen, or men of study, a *bureau of statistics*

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and until prosperity shall indicate changes and improvements. Professors may then be multiplied, but not before:

I. PROFESSOR OF LETTERS.
II. PROFESSOR OF MORAL AND INTELLECTUAL PHILOSOPHY.
III. PROFESSOR OF MATHEMATICS AND PHYSICAL SCIENCES.
I. TUTOR IN ANCIENT LANGUAGES.
II. TUTOR IN MODERN LANGUAGES.

I. The *Professorship of Letters* to include the rules and structure, or grammar of language; the history of language and letters; rhetoric; criticism; belles lettres; poetry; composition; elocution, etc.

II. *Professor of Moral and Intellectual Philosophy*, including the duties and obligations of men towards each other; natural and moral law; evidences of Christianity; law of mind; sensition and perception; reason; phenomena of mind, healthy or diseased, etc., etc.

III. *Professor of Mathematics and the Physical Sciences*, embracing the theory and science of numbers; algebra; principles of geometry; trigonometry; mensuration; surveying; navigation; natural philosophy, embracing leading principles of chemistry, botany, mineralogy, natural history, mechanics, and astronomy, etc., etc.

A list of text books for these courses we had prepared, but have not now space to give.

Extraordinary Professors might be appointed, as in the German universities, from men eminent in different professions and pursuits, resident here or elsewhere, to deliver at their convenience or inclination, public and free lectures upon particular subjects selected by themselves or by the University. This would reward merit every where, and attach its sympathies to the institution.

more complete than any now existing in the Union, and in time equal to anything of the kind in Europe. The importance of this to a great commercial city whose destinies are everywhere written in glowing terms, submitting to comparison with scarcely another in the world, cannot be over estimated. Enlightened merchants appreciate now the value of such information, and know the difficulties of obtaining it here at any time. We must go the North to collect much of the data necessary every day in our operations, and frequently to Europe, for no public library in New Orleans now supplies the want, and none in the Union is fully adapted to meet it. The professor, too, whose mind from long and continued study, becomes imbued with this knowledge, would always be ready and at hand to communicate at the moment and in a reliable manner, whatever the calls or exigencies of the times or of trade may require. *The Chamber of Commerce* of the city would be connected closely with the professorship, having perhaps a common hall and mutually promoting each other's interest.

The endowment of such a branch to the University could be secured by a subscription for twenty or twenty-five thousand dollars, yielding an annual interest of two thousand or two thousand five hundred dollars. This would be the fixed remuneration of the professor whose sole and entire labors are obtained, and who should be allowed in addition as a further stimulous to exertion and reward for such services, certain moderate fees from individuals attending his classes or private lectures, with the exception of those whose means are limited, and who shall receive the advantages free.

The State should be required to furnish the appropriate hall in the University, which it will undoubtedly be happy to do, and make a further provision annually towards the library, say, perhaps, five hundred dollars more. It will be seen directly how this money shall be expended.

We shall now procced to make a brief exposition of the duties of the professorship, its organization, &c., and give the outline of its labors. In this we are without guide from any other quarter, but give our own views, the result of long and continued reflection upon these matters.

PROFESSORSHIP OF PUBLIC ECONOMY, COMMERCE AND STATISTICS.

Embracing the Theoretic and Practical Departments.

I.—Theoretic.

Origin of Society and Government; Theory, Forms, and Ends of Government; Rights, Duties, and Relations of Governments; Sources of National Wealth and

Progress, and Causes of National Decline; Production, Distribution, and Consumption of Wealth, with the Laws appertaining thereto.

II.—The Practical.

Statistics of Population and Wealth in their application to
COMMERCE,
AGRICULTURE,
MANUFACTURES.

1. History and Progress of COMMERCE, its Principles and Laws; Home and Foreign Commerce; Tariffs, Treaties, Life Insurance, Roads, Canals, Shipping, and Revenue, Systems of Reciprocity; Balances of Trade; Mercantile and Navigation Systems; Colonies and Colonial systems; Banks, Finances, Accounts, Transportation, Book-keeping, Principles of Merchant Law; Commerce of Nations Ancient and Modern; Geography of Commerce, Commodities of Commerece, etc., etc.

2. Progress and Results of AGRICULTURAL SCIENCE; Principles of Agriculture; Comparative condition of Agricultural, Commercial, and Manufacturing Communities; Statistics of Agriculture, etc.

3. Origin and Progress of the MANUFACTURING SYSTEM; Its Relation to the other Pursuits; Invention and Machinery in Manufactures; Condition of the manufacturing Classes; Statistics of Manufactures, &c.

Text-Books for this Course:

Locke's Essays on Government; Lieber's Political Ethics and Hermeneutics, Montesquieu's Spirit of Laws; Smith's Wealth of Nations; McCulloch's Commercial and Geographical Dictionary; Say's Political Economy; Vethake's Political Economy; Carey on Wealth; Stephen's Progress of Discovery and Maritime Commerce; Heeren's Commercial Researches; Vincent's Commerce of the Ancients; McGregor's Commercial Legislation; Annual Reports American and Contemporary Governments.

It will be seen that the project covers a wide field, and one the most interesting which could possibly be imagined. Of course it would be impossible to treat in detail all of these subjects, but a sufficient view might be taken of them for all general purposes by every student. Some would of course be glanced over, whilst others being of higher consideration and importance, would receive elaborate notice and exposition. In the successful progress of the University, it might be found, too, at some other day that the labors of the professorship could be divided, giving to the practical and theoretic, different departments and different professors.

The division we have made of subjects needs little explanation. They run naturally one into the other, and it is necessary to make the beginning in the proper place. For example, of how much importance is it to be understood among merchants from the constitution, theory, and objects of government, how far they should interfere in the practical and industrial pursuits of life. How many salutary lessons will be learned from a knowledge of the undue interferences which history records! This, with what is generally known as *political economy*, or what we designate *public economy*, are embodied properly in the course.

Political discussions would forever be excluded from the Chair. Whatever may be the views of the professor in relation to any matter or matters connected with commerce or manufactures, and which are involved in the excited controversies of parties, he shall present them only in connection with the views of either side fairly, and refer the student to his own reflections for conviction, after a careful consultation of the text-books, and authorities. This can as easily be secured as a professorship of the evidences of Christianity, to be found in many colleges, but excluding rigidly all sectarian views and theological discussions.

It should be required from the professorship to prepare and deliver twelve public lectures each year, free to every one, upon subjects determined in its organization. For example, upon the "*Sources of National Wealth and Decline;*" *on the* "*History and Progress of Commerce;*" *on the* "*Foreign Commercial Relations of the United States, including our Treaties;*" *upon* "*Finance;*" *on the* "*Results of Agriculture and the Advancement of Agricultural Classes;*" *on* "*Manufactures;*" *the* "*Science of Statistics;*" *the* "*Geography of Commerce;*" *the* "*Commodities of Commerce;*" *the* "*Literature of Commerce,*" *etc., etc.* The lectures to be of a practical character, and perhaps published eventually, under the auspices of the University, as one of its text-books, and as a work to be prized and consulted in every part of the Union. Such a volume prepared with all the light afforded in the libraries and collections of the University would be complete.

For the Library, in addition to all the standard periodicals and the most select journals in the world relative to commerce, commercial pursuits, agriculture, manufactures, statistics, &c., may be mentioned the following works, a very large portion of which we will venture to say could not be obtained at this time in our country, and scarcely any of them in our city. We make this list from our own library and from a catalogue published by Mr. McCulloch, extracting only the most approved. Many other works equally valuable we could enumerate were it necessary, and we could enumerate maps, charts, etc., etc., which are appropriate to the department. With this catalogue we conclude our observations, in the hope that what has been said will excite public attention upon the subject, and ensure from our wealthy and enterprizing merchants such action in the matter as we think they will be proud to take. Now is the time for action; who will take the matter in hand and charge himself with the important service?

LIBRARY OF THE CHAIR OF PUBLIC ECONOMY, COMMERCE AND STATISTICS.

Œconomics—Stewart's Inquiries in Political Economy; Lauderdale on Public Wealth; Smith's Wealth of Nations; Ricardo's Political Economy and Taxation; Malthus' Works on do.; Torens on the Production of Wealth; M'Culloch's Works; Dr. Cooper's Treatise on Political Economy; Cardoza's do.; Whatley's do.; Chalmers' do.; Scrope's do.; Seniors' do.; Carey's Principles of Political Economy; Quincy's Logic of do.; Hume's Essays; West on Land and Capital; Ricardo's Dialogues; Bailey on Values; Jones on Wealth and Taxation; Boileau's Introduction to Political Economy; Young's Political Arithmetic. Foreign Works of Isnard, de Tracy, Say, Garnier, Ganilh, Douffroy, Sismondi, Droz, Blanqui, Rau, Chevalier, Rossi, Verri, Becarria, Gioja, Pecchio, Munoz, Ward, Ortiz, Guarina's Estrado, Dictionaire d'Economie, Scrittori Classici Italiani, di Economia Politica, etc., etc.

Commerce.—Robertson's Mappe of Commerce; Roberts' Treasure of Trafficke; England's Treasure by Foreign Trade, by Thos. Mun; Fortrey's England's Interest and Improvement; Coke's Treatises on Trade, etc.; England's Great Happiness; Brittania Languens; Childs' Discourse of Trade; Dudley North's Discourses on Trade; Davenant on the Balance of Trade; King's British Merchant; Woods' Survey of Trade; Defoe's Plan of English Commerce; Gee's Trade and Navigation of Great Britain; Carey's Discourse on Trade, &c.; Dobbs on Trade of Ireland; Decker on the Decline of Trade; Tucker on the Trade of France and England; Tucker on Commerce and Taxes; Tucker on Trade of Turkey; Bell's Vindication of Commerce and the Arts; Postlethwayt's Dictionary of Trade and Commerce; do. Commercial Interest of Britain; Cantillon's Analysis of Trade; Rolt's Dictionary of Trade; Mortimer's Dictionary of Trade and Commerce; Mortimer's Elements of Commerce; Tucker's Tracts on same subjects; Sheffield on American Commerce; do. on Irish Commerce; Oddy's European Commerce; Mills' Defence of Commerce; M'Culloch on its Principles and History; Pitkins' Commerce of the United States; Hagemeister on Russian Commerce; Macgregor's Commercial Statistics; Melon's Essay on Commerce; Savary's Dictionary of Commerce; Condillac, du Commerce et Le Gouvernement; Ricardo's Traité du Commerce; Arnauld's Balance du Commerce; Sismondi, Laboulinierre, etc., on Commerce; Douglass' North American Settlements; Bacon's Colonization of the Free States of Antiquity; Moseley's Treatise on Sugar; Brougham's Colonial Policy; Edwards' West Indies; Bliss' Colonial Intercourse; Bliss on the Timber Trade; Martin's Statistics of British Colonies; Merivale's Lectures on Colonization and Colonies; Mun on the India Trade; Robertson on Ancient Communication with India, and Modern Trade with it; McPherson's European Commerce with India; Milburn's Oriental Commerce; Chitty on the Laws of Commerce, Manufactures, &c.; Hooper on Ancient Measures; Reynardson on English Weights and Measures; Arthbutnott's Coins, Weights and Measures; John Quincy Adams' Report on Weights and Measures; Gordon's Universal Accountant and Complete Merchant; King's British Merchant; Hertslet's Treaties of England; Evelyn's Navigation and Commerce; Anderson on Commerce; Macpherson's Annals of Commerce; Vincent's Commerce of the Ancients; Stephens' Progress of Discovery, Navigation and Commerce; Cooley's Maritime and Inland Discovery; Heeren's Commercial Researches; Huet's History of Commerce; Depping's Histoire du Commerce; Marin's Commercio d'Veneziani; Petty on Money; Locke's Treatises on Money; Sir Isaac Newton on Coinage; Leake's History of English Money; Harris on Money and Coins; Snelling's Works on Coinage; Merrey on the Coinage of England; Thornton on Paper Credit; Foster's Commercial Exchanges; Liverpool on Coinage;

Blake on the Course of Exchange; Rudong's Annals of British Coinage; Gilbert's History of Banking; Gallatin on Currency and Banking in the United States; Gouge's Treatise on do.; Carey's Credit System; Tucker's Theory of Money and Banks; Tooke's History of Prices.

Agriculture, Manufactures, Internal Improvement, and Statistics, etc., etc.—M'Adam's Observations on Roads; Parnell on Roads; Phillips' Inland Navigation; Woods' Treatise on Railroads; Petty's Essays on Political Arithmetic; Works of Arthur Young; Dickson's Husbandry of the Ancients; Chalmers' Comparative Strength of Great Britain; Colquhoun on British Empire; Loudon's Encyclopædia of Agriculture; McCulloch's Statistical Account of British Empire; Porter's Progress of the Nation; Porter's Tables of Revenue, Population, etc.; Tucker's Progress of the United States in Population and Wealth; Holland's History of Coal and the Coal Trade; Fraser's Fisheries of Great Britain; Elking's Greenland Trade and Fisheries; Scoresbey's Arctic Regions; Murray's Polar Seas; Babbage's Machinery and Manufactures; Baine's History of Cotton Manufactures; Schrivenor on the Iron Trade; Ure's Dictionary of Arts, Manufactures and Mines; Bischoff on Woollen and Woollen Factories; Slater's American Manufactures; Morgan's Treatise on Life Insurance; Edmond's Tables on do.; Morgan's Essays on Probabilities Applied to Life Insurance; Bentham's Defence of Usury; Botero's Cause of the Greatness of Cities; Benjamin Franklin on the Increase of Men; Hume on Populousness of States; Short on Decrease of Mankind; Price, Wales, Malthus on English Population; Summer's Treatise on the Records of the Creation; Saddler's Law of Population; Allison's Principles of Population; Hawkins' Elements of Medical Statistics; Thackrah on the Effects of Arts, Trades and Professions on Health and Longevity; Eden's History of the Laboring Classes and State of the Poor; Walker on Pauperism; Carey on Wages; Farland's Inquiries Concerning the Poor; Pratt's History of Savings Banks; Prostitution dans la ville de Paris, par M. Parent Duchatelet; Dalrymple on Feudal Property; Maugham on Literary Property; Godson on Copy and Patent Rights; Blair's Slavery Among the Romans; Blandinel on the Slave Trade; Phillips on the National Debts; Saxby on the British Customs; Sinclair on the Revenue of the British Empire; Dr. Hamilton on the National Debts; McCulloch on Taxation; Dr. Davenant's Political and Commercial Works; Beckman's History of Inventions and Discoveries; Jacobs on the Precious Metals; Public Economy of Athens, by Boeckh; Vaughan's Age of Great Cities.

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Art. VI.—COMMERCE, NAVAL AND MILITARY RESOURCES OF CHARLESTON.

Her Geographical Position.—Military and Harbor Defences. Importance as a Naval Depot.—Facilities for Building Government Vessels.—Public Spirit of her Mechanics displayed in recent Movements.—Commercial and Agricultural Resources.—Trade.—Exports.—Manufactures.—Population.—Soil and Climate.—Past Progress and Future Prospects.

The proud soubriquet of Queen City of the South is one by which in filial partiality her devoted sons have been always accustomed to distinguish the old and venerated metropolis of Carolina, from her competitors in a long and arduous struggle for preeminence.

We yield to New Orleans the palm of commercial superiority and the proud distinction of the Grand Emporium of the *South-West*, while looking to the important location of Charleston as an Atlantic seaport, the fond dream of her future greatness as the emporium both in commercial and agricultural superiority, of the *South East*, can never be dispelled from our cherished hopes and ardent longings.

The limits of an article like this will not admit of any extended view of her past history, early settlement, internal laws and arrangements, or manners and customs of the people of this ancient and hospitable city. We are now simply to speak of her commercial, military, agricultural, and naval importance and resources, and in connection with these subjects to present to view the advantages of climate and soil with which this and adjacent sections of Carolina have been blessed; and the talents both literary and practical with which her citizens have been gifted. A combination of resources having a direct bearing upon the subject we propose to consider, viz.: *her superior claims to at least equal consideration in the distribution of public benefits by the government of the United States.* Such a substantial recognition of her merits at Washington as is manifested in the partiality shown to other cities of but little greater importance, would we think give an impetus to every department of trade and commerce, and infuse a spirit of energy and enterprise into the popular constitution, which would soon have the effect of casting off from her name the stigma of inertness and "masterly inactivity," with which it appears to be a matter of supreme delight in some quarters to brand her.

THE GEOGRAPHICAL POSITION

of Charleston is such as to demand for her an extensive foreign trade. (The city is at a distance of but seven miles from the ocean.) Were her national advantages proportionably improved, Charleston would share abundantly with New York, Philadelphia, and the other large commercial cities, both the foreign and domestic commerce of the United States; and were the prejudices of strangers capable of being entirely removed, might command the whole trade of the Carolinas, Georgia, and Florida. The increased facilities of railroad communication serve to place her in convenient proximity with Augusta, an important outlet to the to the interior of the neighboring State of Georgia; at the same time another branch opens a direct intercourse with Columbia, the centre point of a rich back country. Again, a third branch now in progress is contemplated to reach Camden, S. C., there to unite with the projected road of our North Carolina neighbors, from Wilmington, the nucleus of an extensive country trade, and at present the southern extremity of a long line of northern railroad travel. Steamboat navigation to Savannah throws her into juxta-position with another vast section of Georgia, while abundant river and canal navigation opens to her the trade of the adjacent low country and islands. Along the Santee canal a large portion of the produce from the Upper Santee, Congaree, Broad Saluda, and Wateree rivers, passes in boats, carrying from one hundred to one hundred and fifty bales of cotton. An immense quantity of timber is rafted down the Edisto and other rivers in the vicinity.

The exposed situation of this city renders her peculiarly dependant upon the protection of government in time of threatening danger. The concentration of a military force greater than she has ever been provided with in the long and happy interval of peace, which has paralyzed the sources of national defence in the neighborhood of Charleston, would seem to be a measure, the expediency of which could hardly fail to be appreciated. It will not do for government to leave us to protect ourselves with a handful of undisciplined militia, who cannot be expected to possess much practical acquaintance with the science of arms. And yet, at the very period when most required, we have been more than once called on to surrender the scanty force at Fort Moultrie, to fight Indians or rancheros, leaving the more civilized and enlightened citizens of this free and happy republic to man their own dilapitated forts, and fight their own unequal battles against foreign invaders, should they think proper to make their appearance.

MILITARY AND HARBOR DEFENCES.

The internal military government is vested in a military guard, composed of a captain and three junior officers, in command of one hundred rank and file. The efficiency of its police may be inferred from the fact that she has long since taken away from a sister city and appropriated to herself, by almost universal consent, the enviable distinction of the "city of brotherly love." Night broils and pitched battles between lawless mobs and constituted authorities, are occurrences of which her citizens can only form an indistinct idea by reading the northern newspapers.

Among the volunteer corps a considerable degree of military emulation is kept up, and the same feeling must animate every officer and soldier who desires to sustain his popularity among the rest. Even among the best companies, where such a feeling of *esprit de corps* is not to be looked for from their imperfect organization, measures for the general benefit have been adopted with an unanimity which betokens a more promising condition of things in this hitherto neglected department of public service.

Connected with the citadel in Charleston is a military academy on the West Point system, which has been in operation for several years, and which has given birth to a well organized and admirably drilled corps of young cadets. This company of volunteer soldiery reflects high honor upon the military character of the State and the gallant and experienced officer now in command of the citadel. The manly and dignified bearing of the cadets, the moral and affable demeanor which distinguishes them as gentlemen, and added to this the generous spirit of emulation which pervades them as a well organized corps, are subjects of daily observation, which have rendered them quite a favorite class with the citizens.

The harbor of Charleston is formed by the waters of the Cooper and Ashley rivers, which run parallel with each other for about six miles. The inner harbor is defended by Fort Moultrie, on Sullivan's Island; Fort Johnson, on James' Island, and Castle Pinckney, immediately opposite the eastern side of the city. During the Cherokee war a plan of fortification, of which the present White Point Battery is a noble relic, was entered upon but discontinued after the expenditure of a vast sum of money upon it. The fortification was to consist of 'a horn-work built of tappy,' flanked with batters and redoubts at proper distances, and extending from river to river."[*]

IMPORTANCE AS A NAVAL DEPOT.

The importance of Charleston as an eligible site for a naval depot, has been already recognized at Washington in appropriations for the establishment of a yard, which has been in operation now for five years. With an extensive and rich back country, capable of supplying the whole navy of the United States with stores, easily accessible by means of the increased facilities of steamboat, canal and railroad communication; the greatest abundance of timber for building; the best of mechanics; a spacious harbor; a ship channel sixteen feet water at ebb tide, and altogether a safe coast to enter upon; with a climate decidedly favorable to health, as we propose in another place to show; and a respectable share of public spirit on the part of her citizens, as recent movements have demonstrated, this city presents advantages, for the useful application of which her representatives in Congress have been for years contending, with but a limited measure of success. A little perseverance has secured her, nominally, the possession of a navy yard,* but she has been slighted latterly in the disposition of naval receiving vessels. During the years 1843 and 1844, the U. S. schrs. Flirt, Wave and Onkahyee were successively stationed at this yard as receiving vessels. This circumstance attracted the attention of small cruizing vessels to her port for some time, and in consequence several departments of trade were inspired with a temporary activity and energy, which rendered very popular the anticipation of the permanent establishment of these vessels at the navy yard. Shortly after, a naval recruiting rendezvous was opened, in 1843, under the general superintendence of the officers there on the station, and this establishment was for a considerable period, a busy scene of activity. There was no deficiency of sailors, and no difficulty in enlisting them; there were more men shipped from here than from any other station except New York, in the same period of time. After some time, however, had elapsed, the purposes for which the rendezvous had been opened, having been accomplished, it was closed, and so remains at present. The recognition of our claims as an important depot, would have the effect of re-opening all of these avenues of employment. And why should these not be recognized? Let any one look at the annexed Table, and decide whether we have been unprofitable servants:

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[*] "Dr. Hewitt's Historical Account of South Carolina and Georgia, 1799."

—TABLE—

Showing the amount of Revenue collected from the District of Charleston by the General Government, from the commencement of the Government, to the year 1825, *inclusive:*

1791,	$534,783 00	1809,	$378,778 63
1792,	351,257 71	1810,	566,509 66
1793,	354,660 59	1811,	334,869 32
1794,	655,519 63	1812,	429,179 93
1795,	709,804 83	1813,	251,844 86
1796,	52,443 97	1814,	126,046 68
1797,	692,957 12	1815,	1,408,863 41
1798,	238,622 03	1816,	1,356,927 87
1799,	846,465 28	1817,	1,616,460 75
1800,	812,698 99	1818,	1,245,980 87
1801,	1,119,688 29	1819,	734,758 38
1802,	260,909 37	1820,	549,866 04
1803,	639,656 61	1821,	511,852 90
1804,	707,058 33	1822,	780,471 21
1805,	837,849 49	1823,	735,000 00
1806,	665,085 14	1824,	741,038 00
1807,	728,382 56	1825,	701,003 00
1808,	309,685 90		
		TOTAL,	$22,337,381 16

Thus we see that South Carolina has paid in customs to the general government, in the space of thirty-five years, upwards of TWENTY-TWO MILLIONS OF DOLLARS. Large amounts are thus annually drawn from her resources for the advantages of other States, and it would seem but just that a portion, if not the whole amount of revenue collected by the government from the customs of this State, should be disbursed in and for the promotion of the prosperity of her seaports and the advancement of the interests of every department of trade in which her citizens are engaged.

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* Established in 1840.

FACILITIES FOR BUILDING GOVERNMENT VESSELS.

Few sections of country are better provided in this respect than the middle and low country of South Carolina. Timber of every sort, in most luxurious abundance, is procurable with but comparatively little expense, and little or no delay in transportation.

The pitch and yellow pine, (*Pinus tæda et Palristus,*) of Carolina, attains a heighth of upwards of one hundred feet, with a beautiful straight stem two-thirds of the way, and is used extensively for masts of vessels. The Carolina live oak (*Quercus Virens*) grows on lands adjacent to the salt water. It is the most durable of oaks. Its trunk is short, sometimes six and seven feet diameter, and its large crooked branches spread over a considerable extent of ground. This oak yields the best of timber for ship building. Besides this, we have every other variety of oak. The black walnut tree (*Juglans Nigra*) grows to a respectable heigth, its timber is much used in making cabinet work, and is very little inferior to mahogany. The red cedar (*Juniperus Caroliniana*) makes durable furniture, posts, etc., it is nearly as lasting as stone. The holly,—prickly leafed red berry,—(*Ilex Aquifoluim,*) is used by cabinet makers for inlaying mahogany. Its wood is very white and handsome. The American white ash (*Fraxinus Alba*) grows forty or fifty feet high; the timber is used extensively. The Carolina cypress tree (*Cupressus Disticha*) is sometimes thirty feet in circumference; the wood is durable and easy to work, large canoes requiring six or eight oarsmen, are sometimes constructed from a single tree. They afford plank and timber for ships and various other purposes. These are only a few of the principal trees which abound in the vicinity or within easy communication with the city.

There are at the present time, 1847, great numbers of mechanics in Charleston, more or less connected with the various departments of labor incidental to the establishment of a depot for building naval vessels. Among these we rank shipwrights, shipjoiners, boatbuilders, block and pump makers, iron founders, black and whitesmiths, brass founders, coppersmiths, sailmakers, riggers, turners, painters, cabinet makers, block makers, ship chandlers. All these classes, and numerous others, will be *directly* benefited, while the baker, the butcher, grocer, tailor, shoemaker, tanner, the lumber, wood and coal merchant, hardware and cutlery vendor, rope maker, and almost every other working man in the community will find his services brought into abundant requisition.

The frigate John Adams, it will be recollected, was built in Charleston a great many years ago. It is not generally known, perhaps, that this place was, as far back as 1825, used as a naval depot under the government of the late Commodore Renshaw, who has thus been twice placed in the same command.

RECENT MOVEMENTS AMONG THE MECHANICS.

The attention of our mechanics and others interested, was some time ago called through the newspapers to a late Act of Congress, authorizing the building of thirteen sloops of war, of wood or iron, and the completion of all the vessels now on the stocks at the different navy yards, thus affording employment to all of our northern mechanics. The writer of this, among others, endeavored to draw public attention in this way, to the subject: The various suggestions which then followed, demonstrating the importance of immediate action being taken on the subject by our own mechanics, in order that their claims to an equitable proportion of the spoils might be properly presented to the attention of the Navy Department, resulted in a public meeting of the mechanics being called, during which the matter was considered and taken in hand in a prompt and enterprising spirit. The meeting appointed a committee of mechanics to act as a joint committee of consultation, with a delegation from the Charleston Chamber of Commerce, and another from the City Council, who were instructed to report at a subsequent meeting. This committee assembled and drafted a memorial to Congress, which was first signed by the mechanics present, and then left at the different printing offices for the signatures of the citizens generally. The memorial has, so far, been unnoticed, but will, doubtless, be again pressed upon Congress.

From repeated conversations with the most respectable and intelligent of our mechanics, the writer has been gratified to find that a disposition generally prevails among them to enter into honorable competition with those of other places, for undertaking work on the most reasonable and desirable terms, and in the most workmanlike manner, and that a feeling of unanimity on this point exists here which augurs favorably for the success of any measure which may be set on foot for the general benefit. No new project can be hopefully prosecuted without this feeling being encouraged and sustained. All petty jealousies should be cast aside as trifling in the comparison, when weighed in the balance against the future popular prosperity. There is ample room for all in such an enterprize. The united force of all the industry, skill and practical judgment which can be brought to bear upon the result must be necessarily called into action. The benefits will be extended from the working classes more immediately connected with the active operations throughout all the various ramifications of trade, commerce, and even professional industry. In such a cause well may the motto of the people be

> "*United* we stand,
> *Un*-Divided we fall!"—yet still

and bear with fortitude whatever may be the issue.

COMMERCIAL ADVANTAGES, TRADE, EXPORTS, AND POPULATION.

A more judicious selection for the site of a commercial town could not have heen made. In former years her commercial prosperity was great. The average nett amount of duties collected by the general government at Charleston for the years 1815–16–17–18, exceeded *one million two hundred and fifty-seven thousand dollars.* The value of the articles shipped to foreign ports in 1824, amounted to upwards of seven millions, and from October, 1824, to the end of the following year, to twelve millions of dollars. The amount of tonnage which cleared for foreign ports during the same period, was between eighty and ninety thousand, and the amount of duties collected, nearly eight hundred thousand dollars. The amount of exports to the different ports of the United States during the same time, has been estimated at eight million five hundred thousand dollars, which added to the seven millions already stated, presents an amount of exports fully equal to, if not exceeding that of any other city in the Union. In 1799, it was more than ten, and in the following year very little less than fifteen millions. The exports of rice during a lapse of between twenty and thirty years in the early period of its exportation, very nearly doubled itself previously to the expiration of that time.

The statistics of the trade of still later years tell well for the amount of business done. Previous to the great revulsion in commercial affairs in 1837, the wharves presented a scene of the most lively interest. Vessels crowded the docks, arriving and departing. The following table of exports of cotton and rice immediately antecedent to that memorable period, has been politely furnished by an intelligent merchant of Charleston:

	From Oct. 1, 1835, to July 12, 1836.			From Oct. 1, 1836, to July 12, 1837.		
	Cotton.		Rice.	Cotton.		Rice.
	S. Island. Bales.	Upland. Bales.	Bbls.	S. Island. Bales.	Upland. Bales.	Bbls.
Liverpool,	9,397	79,800	5,289	9,200	72,007	9,699
London,		2,927	6,781		1,541	5,549
Greenock and Glasgow,	711	11,468	33	520	12,797	11
Cowes and a Market,		354	955		203	1,570
Havre,	3,493	41,163	5,063	2,080	31,153	5,506
Other French Ports,		10,017	3,783		5,617	3,173
Holland,		8,520	11,130		1,920	8,983
North of Europe,		10,369	17,264		7,561	13,114
Other Foreign Ports,		6,192	126		2,936	761
West Indies,		3	20,731		199	20,053
Ports of the U. States,	675	43,602	44,380	269	23,910	37,292
	14,276	214,415	115,535	11,957	159,844	105,711

The census of 1840 exhibits a decrease of population to some extent which may be accounted for from various causes. There can be but little doubt that the principal source of that intolerable distress which throws so many out of employment is the annual overstocking of particular professions and occupations to the total exclusion of others. Many who have been brought up to the attainment of a professional or mercantile education, and who have been compelled to seek other climes for support, might have found ample means of advancement in following some good trade for which their natural or constitutional abilities would have better adapted them.

AGRICULTURAL RESOURCES.

Beside the culture of cotton and rice, the two great staples of Carolina, the soil and climate of the lower sections of the country adjacent to the city are highly favorable to the abundant growth of almost every article of produce raised in the northern States. The olive and the vine have both been cultivated a little further north than Charleston. The latter would, perhaps, in these cold water times, prove not as profitable as might be desired. Tobacco and indigo have both been staples of Carolina. On the sea islands, in the immediate vicinity of the city, where the richest and most valuable crops of cotton are made, instances have occurred of from eighteen hundred to two thousand lbs. of cotton in the seed being raised in one season from a single acre of land. Rice can be cultivated in any part of the State, particularly in the lower sections, where the soil will permit its growth. In 1759, en thousand pounds of raw silk were raised in the State; sugar, cassia, oranges, lemons, figs and pomegranates have all been successfully raised. Many portions of the country present admirable advantages for raising stock. The country abounds in manures arising from rich bottoms, oyster shell beds, marls, salt marshes, cotton seed, etc.

The labors of distinguished members of the State and District Agricultural Society, have accomplished much in the various departments of agricultural science. The society established at Charleston is composed of the most intelligent planters in the State. The recurrence of the sickly season, when (however paradoxical this circumstance seems destined ever to appear in the eyes of some of our brethren of the up-country) *the planters generally resort to the city for health!* brings together a very large portion of the talent, enterprise, and practical knowledge of the agricultural community, by which means the benefit of free communication is obtained. The intercourse of these men is remarkably free from the petty jealousies and undermining dispositions of many others. The low-country planters are equally distinguished with those of the upper districts for the abundant display of that old-timed hospitality, which has been conferred by unanimous consent as a remarkable characteristic of the old Palmetto State. Charleston being the chief city, of course concentrates the larger portion of the wealth, respectability, talents and influence of this most independent and generally esteemed class of citizens. Most, if not all of the leading agriculturalists are actively engaged in promoting the objects of the State and District Society, and many have already developed a career of practical usefulness which will redound to the prosperity and improvement of their native soil.

CLIMATE AND SOIL.

Of the peculiarities of soil in the low country, we have already spoken. In advantages of climate, we are highly favored. Few large cities have ever been so peculiarly exempted from epidemic disease. The same atmospheric influences which render so delightful and attractive some portions of Italy, Turkey, and the south of France, conspire to make this one of the pleasantest locations for health and comfort. The degrees of extreme heat are less in the city than in the interior. In some of the upper districts, during the summer of 1845, the thermometer, in the month of June, reached *one hundred*, while in the city ninety-six was the ultimatum; and it is but seldom in the depth of winter that the air is too piercing for exercise, while our neighbors among the mountains are surrounded with snow fortifications. With the exception of a few fatal complaints among the children, the much dreaded summer months are comparatively free from unusual sources of disease. During the last winter, the weekly bills of mortality averaged not more than eight to ten or twelve instances of fatal disease, and on several occasions, but *four* deaths were reported out of a population of nearly *thirty thousand* human beings! That more than Egyptian plague, the yellow fever, has now almost ceased to claim existence, though so great is the power of prejudice that the idea of its presence at particular seasons will probably never be banished from the minds of those who now look upon a visit to the city after the month of April, as an omen of certain death. The ravages of this dreadful sccurge of humanity in past times, may be traced to the inexperience of physicians, who at that time felt their utmost skill and ingenuity provokingly baffled by an agency which subsequent experience has almost entirely disarmed of its destructive powers. The vigilance of the city authorities has in later years proved successful in removing those local causes of disease, and prohibiting the introduction of foreign elements of mischief to such an extent as to provide for the public health an ample measure of security during the seasons most subject to their influences. The fatal effects of the yellow fever from its first appearance early in the commencement of the last century, to its temporary cessation fifty years after, and again, from 1792, after an interval of complete exemption for forty-four years, to 1808, was confined chiefly to the unacclimated. The recurrence of the same distressing visitation during the summer of 1824, and several succeeding years, enabled the active exertion of medical skill to overcome its virulence in an eminent degree, and since that period its visits have been less and less frequent. In the whole number of deaths in 1802, one of the most alarming seasons, there was *not a single native* of Charleston, though several were natives of the State and one of North Carolina, the remainder being mostly Irish, French, Scotch, English, and Spanish emigrants.

The small-pox is another old foe which has been encountered with signal success. Cases of this scourge, since the general introduction of vaccination have been indeed rare, and from the "angelic" nature of its visits," it may almost be said to have entirely deserted us. The first and most destructive inroads of this disease were almost simultaneous with those of the yellow fever, and doubtless contributed to create a panic, the effect of which will probably endure as long as the two diseases continue to find in their travels "a local habitation and a name."

Instances of longevity are not at all rare among her citizens. There are still living a respectable number of venerable revolutionary worthies actively engaged in the every day business of life, and enjoying a degree of health to which many of their grandsons and daughters would be glad to attain. Salutary influence has been produced in the wonderful changes which have been worked of late years in the habits of particular classes of the people. The rapid strides which the temperance reformation has been making towards the remodelling of public sentiment with respect to "*genteel dissipation,*" that deceitful and alluring but no less destructive bane of the higher classes, and the gradual lessons of past experience, which have develloped the true sources of social degeneracy and waning domestic prosperity. Where habits of temperance have been formed in early youth. it is not unusual with us to find cases of individuals who have lived very little short of an entire century, whose mental and bodily faculties remain as fresh as in the vigor of manhood. We have now a number whose ages exceed *ninety* thus favored in regard to health and intellect; and instances are enumerated in Carolina history of deaths in the immediate neighborhood of Charleston, at the advanced ages of *one hundred* and *one hundred and five!*

This, be it remembered, is in a *low country* climate.

PAST PROGRESS AND FUTURE PROSPECTS.

In glancing over the past progress of Charleston, we find an innumerable combination of causes which have largely co-operated in retarding her onward career towards that long anticipated goal of prosperity which we believe she is still destined to reach. The ruinous policy of our government, the tendency of which has so long been to enrich particular portions of the confederacy at the expense of others, is the real source of the present inequality of incitements to enterprize, and the partial distribution of those privileges and benefits to which all are eqnally entitled. What signifies it that Providence has blessed us with unusual natural facilities and advantages, if these do not of themselves give us additional claims upon the attention of "the powers that be." The great difficulty is that even when such claims are recognized, perhaps *a single* appropriation of the public funds is, by dint of importunity, *squeezed* out of the long-necked purse of the national treasury; and after a short-lived series of half way measures, the petitioners are left in the lurch with just enough of government patronage to originate projects which are necessarily abandoned for want of further support, and thus to render the whole matter superlatively ridiculous. The whole system of expenditure is characterized by a curious compound of prodigality and parsimony, the one applicable to the gratification of a spirit of unjust favoritism, and the other to measures of great public utility.

Charleston has in its time suffered by the emigration to the West. Like all other large cities, her avenues of employment are not sufficient to afford to all her citizens those advantages of which the increasing thirst for acquisition of "the one thing needful" in wordly bliss, demands the more extended diffusion year after year. But it is not to this transient population to which she looks for support in her hour of need. Her important location will ever render her a valuable seaport. Her commerce cannot be much impeded by the loss of the surplus portion of her population. Her agriculturalists are becoming daily more and more sensible of the defects in long tried systems of culture, and are every day improving upon past experience. The introduction of manufactures will open new sources of employment and call into activity a large amount of dormant capital. The vigorous renewal of operations at her navy yard, at the unanimous demand of the people, will not only stimulate the industry and remunerate the labours of mechanics in all departments, but will give life and animation to trade of every description, and invite the additional influx of an active working population. Thus will not only her individual prosperity be promoted, but a precedent will be established by which the whole South may have cause to hope for a permanent abolition of the infamous code of justice which has heretofore excluded that devoted section from all participation in the distribution of the spoils to which it is at the same time compelled to contribute an unequal and unjust quota.*

Art. VII.—UNITED STATES BRANCH MINTS.

THE MINT AT NEW ORLEANS.—PROCESSES PURSUED OF WORKING THE PRECIOUS METALS.—STATISTICS OF COINAGE, ETC.

The branch Mints of the United States were established by act of Congress, on the third of March, 1835. The edifice of the New Orleans Mint, occupying, by perpetual grant† from the city, what was formerly called Jackson Square, between Barrack and Esplanade streets, Old Levee street and the river, was planned by William Strickland, architect. The building was begun in September, 1835, and finished in 1838, at a cost of $182,000. Total length, including the wings, 282 feet; depth of the main building 108 feet. The wings are 29 by 81 feet. In addition, the iron fence enclosing the square, out-door improvements, the machinery, furnaces, fixtures, apparatus and implements, cost nearly $118,000, making a total cost of near $300,000. The annual expense to government in maintaining the Mint in operation, is about $52,000.

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* The reader by reference to the back numbers of this Review, will find all the detailed statistics of the trade and progress of Charleston, which leave at this time scarcely anything wanting. We particularly refer to the numbers for January, March, April, June, September, December, 1846, February, March, April, May, 1847.

† The act of conveyance was before Felix de Armas, notary public, on the 19th June, 1835, signed by George Eustis, attorney of the city corporation, and D. Prieur,

The first appointment of officers to this Mint was made in March, 1837, as follows:

David Bradford, Superintendent; removed in 1839. Edmond Forstall, Treasurer; removed in 1839. James Maxwell, Melter and Refiner; died in 1839. Rufus Tyler, Coiner; died in 1839. William P. Hort, Assayer.

In 1839, the Mint was reorganized by the appointment of the following officers:

J. M. Kennedy, Superintendent. H. C. Cammack, Treasurer, removed May, 1845. J. L. Riddell, Melter and Refiner. P. B. Tyler, Coiner; resigned April 1, 1847. Wm. P. Hort still holding the office of Assayer.

J. R. Macmurdo was appointed Treasurer in May, 1845. John Brooks was appointed Coiner April 1st, 1847. On the 6th of August, 1846, J. R. Macmurdo, Treasurer, became ex-officio Assistant Treasurer of the United States, under the Independent Treasury law. We may add the following, appointed by the Superintendent: F. W, Smyth, Clerk, annual salary $1,200; Martin Kennedy, Weigher, annual salary $1,200. Appointed by the Treasurer: O. B. Bradfute, Sub-treasury Clerk, annual salary $800.

Salary of Superintendent, $2,500; Treasurer, Assayer, Coiner, Melter and Refiner, each $2,000. Additional salary of the Treasurer

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Mayor, on the part of the city, and by Martin Gordon, Sen., on the part of the United States. May 9th, 1835, the city council "*Resolved.* That the use of the square of ground, etc., be ceded to the United States for the express and only purpose of a Mint; and if the United States government should hereafter remove the Mint, or cease to occupy it for such purposes, then the cession to be null and void."

Martin Gordon, Sen., Commissioner to build the New Orleans Mint, in his report of Nov. 20, 1835, to the Secretary of the Treasury, says, "by this liberal and patriotic act, the United States became possessed of one of the most valuable squares of ground in the city, *without any cost to the government.* The value of this donation has been estimated at little less than $500,000. Within a few years past a suit has been entered against the officers of the Mint, as possessors, by individuals claiming the Jackson Square as their private property by inheritance. Should their claims now pending be made good, it may cost the city something to make good the cession to the United States.

as Assistant Treasurer of the United States, $500. Residences in the Mint edifice are held by the Superintendent, Coiner, and Melter and Refiner. There are employed in the coining department thirteen workmen besides the foreman; in the melting department, six; in the assay department one; in the weigh room one; as door-keepers, night and day police, six. The average pay of these men is about $60 per month each.

PROCESS OF COINAGE.

Silver and gold are coined at this Mint into dollars, halves, quarters, dimes, half-dimes, eagles, half-eagles and quarter eagles. Gold is presented to us in the form of foreign coin, bars, dust, and old jewelry; the most abundant foreign gold coins being English sovereigns, French Napoleons, patriot Doubloons, and the coinage of different German States; while the unwrought gold is principally from the State of Alabama. Mexican dollars constitute the greatest bulk of the material for silver coinage.

Any person bringing good precious metal to this Mint for coinage, is entitled to receive back in American coins exactly the same amount of fine gold or fine silver which he brings, without deduction or expense, the United States government taking upon itself the expense of coinage. If the bullion, containing both gold and silver, require the operation of parting, or if toughening be required, then the actual expense of these operations is deducted from the value of the bullion, in favor of the government.

Bullion is received by the treasurer, weighed in the presence of the owner by the weigher, who gives a receipt for the actual weight in troy ounces and decimals. If it consist of mixed coins or various bars, it is sent into the melting department, placed in a red hot, clean black lead pot, melted, stirred up, and mixed, and cast into a homogeneous bar. It is next given to the assayer, who cuts off a piece of the bar, rolls out the piece, clips it with shears, and weighs out exactly 1000 milligrammes thereof, which he wraps up in lead, and places upon a white hot dish of bone earth: the whole melts, and oxidizing, every thing present is usually absorbed by the bone earth but the silver or gold. If pure silver alone remain, its weight in milligrammes shows how many thousandths fine the bullion is. The result is, however, corrected by what is called the humid assay, which depends on a definite precipitation of chloride of silver from a solution of nitrate of silver, by definite measures of a solution of common salt of known strength. If the assay be one of gold, after the button of metal has been removed from the bone earth, it is melted with about three times its own weight of pure silver, the alloy is rolled out and repeatedly subjected to the action of hot nitric acid, which dissolves and removes the silver, but leaves the gold. The latter is carefully washed, dried, annealed at a red heat, and subsequently weighed in milligrammes, by which the proportion of gold in 1000 parts is made apparent. With these data the assayer then estimates the value of the bullion, whereupon the treasurer, if called upon, as promptly as practicable, pays the amount to the owner.

Parcels of bullion of known value, are from time to time, delivered and debited to the melter and refiner, who manufactures the same into ingots for the use of the coiner. Upon the receipt of bullion, the melter and refiner assorts the bars into the following classes: A. Ready to be made directly into ingots. B. Requiring to be toughened. C. Requiring separation.

A. A melt is made up by arithmetical calculation, from bars of the class A., some above, some below standard in title, so that the result of melting and mixing may produce ingots 900-1000ths fine. In case of silver about 7000 troy ounces, equal to 480 lbs. avoird., are melted in a large cast-iron pot or crucible, surrounded by a charcoal fire, in a wind or draft furnace; and when the whole is in a state of fusion the mass is diligently stirred, and then, by hand, laded out and poured into smooth iron moulds, making slim ingots, about sixteen inches long. Gold is in like manner melted and cast into ingots in black lead pots, each holding about 1600 ounces, near 110 lbs. avoird. The assayer next ascertains that the ingots cast are of the legal fineness required, if not, they are condemned and have to be remelted. B. Bullion containing anything but gold, silver and copper, usually requires to be toughened, an operation commonly performed in the Mint by repeatedly casting nitre upon the surface of the melted metal, stirring it about, and then skimming it off with the dross from the base metal contained.

C. The mint processes followed for the separation of alloyed gold and silver, are as follows: In the first place the mixed bullion, if required, is melted with additional silver, so that the alloy may contain about three times as much silver as gold;—the melted metal is poured in a small stream from a height of a few feet into cold water, by which means it is obtained in a finely granulated condition; the granulated metal placed in a glass mattress, supported upon a sand bath, is boiled with nitric acid, which dissolves the silver, but leaves untouched the gold, in the form of a dark powder. The dissolved silver is poured into a tub of strong brine of common salt, by which it becomes converted into a white powder, the chloride of silver. After repeated washing the chloride of silver is subjected to the joint action of metallic zinc and hydrogen gas, by which means it becomes changed to pure, finely-divided, solid silver. After being washed and dried, it is melted with nitre and borax, and cast into bars. The dark powder of gold is also carefully washed in hot water, dried, and in like manner cast into bars.

Consequent upon these operations, more or less gold and silver become mixed with ashes, dross, dirt, etc., etc. All these matters are finely ground and washed, smelted, etc., for the extraction of the precious metal. But there will still remain a valuable residue, for which reason the sweepings are ultimately treated like poor gold or silver ores, metallurgic operations, the performance of which have heretofore not been allowed in this Mint. The sweepings are, in fact, sold abroad.

The gold and silver ingots, cut and trimmed, and their fineness or quality approved by the assayer, are next transferred by weight, through the treasurers office, to the coiner. In the coining department they are repeatedly passed lengthwise betwixt smooth and powerful iron rollers, being annealed from time to time in a large annealing furnace, until by the compression, the metal assumes the form of long, thin strips, the thickness of which approximates to that of the coin to be manufactured. The annealed strips, covered with a thin coating of wax or tallow, are then taken to a Burton's drawing machine, where, being drawn between polished steel surfaces, on the principle of wire-drawing, the thickness is reduced exactly to the extent required. To attain this nice result, the steel surfaces are adjustable, and trial pieces are punched out and weighed. The drawing machine, as here arranged, is an admirable piece of mechanism. If the strip be drawn a fraction too thin, which seldom happens, it is condemned and returned through the treasurer's office, with all the residual clippings, to the melter and refiner, who consigns the whole to the melting pot.

The approved strips are next submitted to the action of a circular punch, which, at the rapid rate of one or two hundred per minute, cuts out the planchets or blank pieces of the required size for the coin intended. A most curious mechanical process is that next in order, raising milled edges upon the planchets. They are rolled with great velocity edgewise between approximating circular steel surfaces, so that raised edges are produced at a rate depending upon the size of the pieces, from one to seven hundred per minute. All the form-changing operations are now completed, preparatory to the actual coinage. Annealing and cleaning have next to be attended to. The planchets, with wax or tallow still adherent, are now heated to a dull redness in iron recipients placed in the annealing furnace, and poured, hot as they are, into a vessel of diluted sulphuric acid, by which means all impurities are removed from their surfaces, the alloyed copper superficially dissolved away, and the clear, beautiful, dead-white appearance of pure unburnished silver is elicited. Adhering acid is washed away in water, and adhering water dried away by hot mahogany sawdust, in an ingenious rotating apparatus heated by steam, invented by the late coiner, P. B. Tyler.

From the peculiar position of New Orleans, it seems probable, now that this mint will, in the future, subserve much more important national purposes than were at first generally contemplated. The amount of native gold annually raised in Alabama is greatly on the increase; the acquisition of Texas will, ere long, bring us abundance of silver and gold, from the rich mines of San Saba, within her borders, and ultimately, we shall receive most of the produce of the numerous and abundantly productive mines of the adjacent Mexican States, now in our military possession. Precious metals unquestionably abound in western Arkansas, and great abundance of silver, associated with copper, etc., has lately been found in the copper regions bordering upon Lake Superior. A fair portion of all which this Mint will probably be instrumental in transforming into current coin. Moreover, we should bear in mind that vast hordes of foreign emigrant coins, for which cotton, sugar, and Western produce are exchanged, by this institution are put through a process of naturalization, by which they become wholly Americanized, and induced to remain permanently in the country.

The coining process consists essentially in compressing the prepared gold or silver blank, with very great force between engraven dies of steel, of extreme hardness and high polish. The dies are prepared for this Mint by impression from male dies at the Mint in Philadelphia. The letter O, placed usually under the eagle, is intended to designate the coinage at New Orleans. In times of old very simple means were used in the process of stamping money, such as blows by a hammer, or compression by a plain, ordinary iron screw-press, the whole being performed by human labor. Coining in Mexico, South America, and many other parts of the world is, said to be still conducted according to the latter method; but here, as in England, France, and elsewhere, the machinery for rolling, drawing, punching out, milling and coining, is driven by steam, and the coining presses in use are models of the great excellence to which the mechanic arts have attained. There are four presses in the coining room, forming a series, in respect to size and strength, adapted to the stamping of the various coins from the halfdime to the dollar. The mechanical principle brought into play is the same as that in the ordinary printing press—the genicular or elbow power, by which, with sustaining parts of sufficient strength, an almost incalculable degree of pressure may be commanded. Each operating press requires a man to watch it, to oil the joints occasionally and to keep a vertical brass tube supplied with the blanks or planchets to be coined. The untiring press goes on, siezing with iron fingers from the tube, a planchet of its own accord, carefully adjusting it to the retracted dies, squeezing it with a degree of force sublime to contemplate, and then quietly and safely depositing it in the box placed to receive it. From eighty to one hundred and fifty pieces, dependent upon the size, are thus coined in one minute's time. The obverse, reverse, and indented work upon the edge, are all completed at a single effort of the press. Travel the world over, and you can scarcely meet with a more admirable piece of massive mechanism, than the new press in the New Orleans Mint, for the coinage of dollars.

Though stamped and perfectly finished, gold or silver does not legally become money until the coiner has formally delivered it, by counting and weighing, over to the treasurer. It must be seen that the pieces possess the weight required by law. If any prove too light upon trial, a circumstance that rarely happens, such are defaced and condemned to be remelted.

All nations that aim to preserve what is called public faith, are religiously scrupulous to maintain, as far as practicable, the weight and quality of their national coins, in correspondence with the legal standards which they fix upon. Acting with this view, our Government has established an annual trial before special commissioners, to test and verify the standard value of the coins of the preceding year. This trial is held at the parent Mint, in Philadelphia. Subservient thereto, it is the treasurer's duty to select assay coins indiscriminately from every parcel delivered by the coiner to the treasurer. The coins by him selected are properly labelled and formally placed in a tin box, secured by two locks, the key to one of which is kept by the assayer, the key to the other by the treasurer. The contents of this box are transmitted by the superintendent, through the Secretary of the Treasury, to the director of the Mint at Philadelphia, for the annual trial. The coinage of this Mint has thus far been approved, but it is worthy of remark that the average finess of the gold coins issued is a trifle better than the mean standard contemplated by law—the averrage value of a New Orleans eagle being about three-fourths of a cent greater than similar coins from the mints at Charlotte, Dahlonega, or Philadelphia.

Detailed Statement of the Coinage, year by year, at the Branch Mint, New Orleans, from the Commencement of its operations to the close of 1846.

1838.

	No. of Pieces.	
Dimes	402,430	
Amount		$40,243

Years,	1839.	1840.	1841.	1842.
Eagles,	———	———	2,500	27,400
Half-Eagles,	———	30,400	8,350	16,400
Quarter-Eagles,	9,396	26,200	7,380	19,800
Half-Dollars,	116,000	855,100	401,000	957,000
Quarter-Dollars,	———	425,200	452,000	769,000
Dimes,	1,291,600	1,175,000	2,007,500	2,020,000
Half-Dimes,	1,060,000	935,000	815.000	350,000

Years,	1843.	1844.	1845.	1846
Eagles,	175,162	118,700	47,500	81,700
Half-Eagles,	101,075	364,600	41,000	58,000
Quarter-Eagles,	368,002	———	———	66,000
Dollars,	———	———	———	59,000
Half-Dollars,	2,268,000	2,005,000	2,094,000	2,304,000
Quarter-Dollars,	968,000	740,000	———	———
Dimes,	150,000	———	230,000	———
Half-Dimes,	———	220,000	———	———

RECAPITULATION.

	Value of Gold.	*Value of Silver.*	*Total.*
1839	$23,490	$240,160	$263,650
1840	217,500	698,100	915,600
1841	85,200	555,000	640,200
1842	405,500	890,250	1,295,750
1843	3,177,000	1,391,000	4,568,000
1844	3,010,000	1,198,500	4,208,500
1845	680,000	1,070,000	1,750,000
1446	1,272,800	1,211,000	2,483,800

SUMMARY.

Total number of Pieces coined	26,978,127
" Value of Gold	$8,871,490
" Value of Silver	7,294,253
" Value of the Coinage	16,165,743

* * *

Art. VIII.—THE COTTON WORM.—ITS HISTORY, CHARACTER, VISITATIONS, etc.

Bayou Sara, June 1*st*, 1847.

To J. D. B. De Bow, Esq.:—

The following are some remarks on the nature of the cotton fly of 1846, being a sequel to a dissertation on the usefulness of a knowledge of the natural history of insects, written last winter. I send you that portion only which treats of the cotton fly as falling more especially within the province of your periodical. This manuscript would not have sought a place upon your pages had not my attention been drawn to it by the ill-founded apprehensions of many planters concerning the *present* existence of the cotton worm, an event utterly impossible, for if it makes its appearance at all this season, it most certainly will not do so until the cotton plant has attained its greatest maturity. I see, also, in your Review a communication claiming to show the means by which the army worm may be effectually eradicated, in which is displayed the greatest ignorance as to the general laws which govern the insect world. The writer states that the chrysalis of the cotton fly may be ploughed up, and thus destroyed, etc. Now, these chrysales never go in the ground at all, but are invariably attached to something above the surface. This is a fact that could not have escaped the attentive observer. I ask how a chrysalis invariably formed above ground and incapable of locomotion is to work its way beneath the soil? As to the insect, on any condition, secreting itself in the earth, beneath the bark of trees, under fallen timber, etc., it is altogether a mistake if not an absurdity, and easier asserted than proved. In treating of the cotton fly in the following pages, my aim has been to found my assertions upon general principles, and though the practised entomologist may find some inaccuracies in the detail, yet I insist upon the principles as universal and incontrovertible.

Let us now pass to the consideration of the cotton fly, premising, however, before entering into an examination of this destructive little moth, that my remarks are intended less to enlighten others than to elicit information from some one who is better able to inform the public mind on this interesting subject. As for myself, I must confess that my limited observations do not justify me in coming to any positive conclusions, nor have by no means satisfied my curiosity, but my information, such as it is, I give in the following pages with the hope that however imperfect it may prove in the main, yet that some mite of information may be gleaned from it. It is impossible to think for a moment that this species of moth has escaped the observation of entomologists, for the plant upon which it feeds to the absolute exclusion of all others, (being the great staple production of many countries,) must have brought it into notice at various times and at various places. From its univorous nature, (to coin a word,) it must have been coeval with and inseparable from the existence of the cotton plant. My principal motive for broaching this subject is on account of the frequent remark made, and fears entertained ,that the army worm would become an annual plague. But since I have investigated their nature I have come to the conclusion that these fears are groundless, and that the cotton fly can never become naturalized in our climate.

The first eruption, as I am informed by an old planter, that this insect made on the cotton fields of Louisiana, was about the year 1820, when its progress was marked with the same utter destruction of the cotton crop as in the subsequent years of their appearance. It then disappeared until '40, a period of twenty years. There is something singular and unaccoutable in the periods of this insect, something vastly different from the periodicities of others which we find with us, for they appear to be governed by some fixed laws; the most of them are annual, very few biennial. Now, the grasshopper, house-fly and musquito may be looked for at the return of summer with as much confidence and certainty as we look for the revolutions ot the seasons. The cicada septemdecem never fails to make his appearance once in seventeen years. But who can tell whether the cotton fly will appear next year or fifty years hence? No scourge whether under the form of a devouring insect or that of a malignant disease, ever became annual in one particular place. Look at the locust of Egypt, suppose that voracious insect to become annual, the prolific valley of the Nile, once the granary of Asia and Europe, would become a howling desert. Look at the plague that devastates sometimes Smyrna and Constantinople, did the cause of that distemper act with the like intensity at each return of the season, those flourishing cities would long since have been numbered with Thebes and Memphis. Let the cholera or yellow fever prevail in New Orleans every year, as it has at times, and that great emporium of the South-West would become a puny village. Is there not an invisible hand that sways the destinies of the world? a hand that stays the devastations of plague, pestilence, and famine?

The cotton fly belongs to that numerous class of insects known to naturalists under the term of phalena or moth tribe. It resembles the butterfly tribe it many respects, but its chief point of difference is that all moths fly at night and are attracted by bright lights, and may be seen darting through the flame of a candle, during the summer and fall months, to the great annoyance of those who desire the benefit of its light. Butterflies fly only during the day.

The following are its specific characters without the technicalities made use of by the naturalist, so far as they could well be avoided:

Antennæ, or little horns projecting from the head, setaceous or terminating a point like a bristle, of a drab color, and five lines in length, being about half of the length of the body.

Wings incumbent, deflexa; under surface of thorax or breast of a dull silvery white, insensibly terminating on the abdomen and wings in a color tending to a russet; the upper surface of the wings and back varying somewhat in different individuals, but generally of a changeable golden color with ferruginous zigzag lines traversing the surface transversely; posterior margin bordered with a narrow strip of pale pink color, with small denticulations. On the upper surface of the wings there are two black spots, one on each, about the middle of the base; legs white, the four posterior very long when compared with the front ones, which are short and slender; the tail simple. The length of this insect is about nine lines from head to tail. Expansion of the wings at the tips about the same measurement. To conclude, I will add that the shape of this moth is very much like that of an isosciles triangle, with the line forming the base inflected inwardly about two lines. This peculiar figure is produced by the exterior angle of the upper wings projecting beyond that of the interior angle.

During the present year, the time that my observations commenced for the first time, the cotton fly again made its appearance in the latter part of August, at first making but little progress, but about the middle of September their numbers increased so prodigiously that in many instances they would eat over a field of several hundred acres in four or eight days. The number of eggs deposited by the female is uncertain; they are smaller than a mustard seed, and always deposited on the under-surface of the leaf during the night, in a few days their eggs hatch. The worm, at first a minute living point, falls immediately to work to devour the leaf; its growth is rapid, for its labors cease not night nor day until it arrives at maturity, it then winds itself up into a leaf by means of a web resembling *cobweb*, casts its skin and changes into a chrysalis, in which state it remains ten days, then it bursts the thin walls of the chrysalis, and comes forth a perfect insect. In turn, it begins the work of re-production, deposits its eggs, and in ten more days it dies.

Thus in every ten days there is an additional generation, and they go on increasing *ad infinitum*. As soon as the leaves were consumed in a field this great *army* took up its march: some in search of comfortable quarters, where they might repose from their labors; others on a foraging expedition to replenish the means of their subsistence. The first took shelter in the first leaf they met with, but generally they proceeded as far as the fence, a barrier beyond which they never travelled, where they found a plentiful supply of leaves, in which they enveloped themselves. The second division extended their march much farther, sometimes travelling half a mile from the point whence they started, perishing by cart loads for want of food and the many casualties to which their journey subjected them, such as carriage wheels, heat of the sun and the rapacity of birds.

Here then it would appear was an end of the cotton worm, for a season at least, for those which yet remain in chrysalis in the fence corners, will change to the fly in ten days. But where are now the cotton leaves upon which the pregnant female is to deposit her eggs? There is not one left. If they are placed on any other leaf the eggs may hatch, but the worm must perish, as we have just seen them perishing by myriads while wending their way through a various and luxuriant herbage in search of that food intended for them by nature. In ten days from the time that the worm becomes a chrysalis on the borders of the cotton fields, a host of flies are seen issuing therefrom: they go forth in search of food for their forthcoming progeny; now it is to be found their days are numbered, in ten more if they meet with no cotton leaves they themselves must die, and thus put an end to the whole race. But their search is continued, and now when the weary insect is ready to finish its term of days, a tender but sparse foliage crowns the leafless twigs of the cotton plant, on them the eggs are deposited: they hatch, the worm eats, returns again to its chrysalis. The cotton stalk still puts forth new leaves, they grow and expand until the fields again look green; ten days, aye, forty elapses, yet there is not a worm to be found. One would have thought that this second crop of leaves would scarcely have been sufficient for a single repast for them, yet the food that they so lately devoured with such voraciousness is now left untouched. What is the matter! Why don't they eat, their food is spread before them? Read on, the answer will be found in the sequel. Let us examine the cause. In nearly every fourth leaf we find a chrysalis writhing and contorting itself at the touch. Ah! here is the explanation of the difficulty, this is no ten days chrysalis, but that in which it is to hibernate, possibly for one winter, perchance for twenty. Let us take a pocket full of these home, and place them beneath tumblers and wait patiently to see what they will produce. If I had found a treasure my delight could not have been greater than that I experienced at the idea of unraveling this mystery. But man is prone to disappointment, as we shall soon see. About the fifteenth of November the insect appeared, but *mirabile dictu!* as different from the cotton fly as it is possible to suppose one insect could differ from another. It belonged altogether to a different family, a description of which I give, as follows:

Antennæ filiform; black, six lines in length. Palpi four; two external and two intermediate, the external white, twice the length of the other two, in shape angular, the angle projecting externally. The two middle are straight, scarcely perceptible over a strong light; they are of a dark color. Wings four; hymenopterous; incumbent, extending to and exactly even with the end of the tail; shape of the wings, which are small and extremely thin and delicate, are like that of a fan. Front legs half the length of the posterior, of a uniform orange color; the intermediate legs very little longer than the anterior; the thighs of a deep orange color, the rest of the leg annulated with orange and white. The posterior legs long in comparison to the others; thighs of a deep orange color, the rest of the leg annulated with black and white, the rings being larger than those of the intermediate. The trunk is of a uniform shining black, as would be the upper surface of the abdomen also, were it not for the very narrow white bands which connect the black scales together, giving to the abdomen an annulated appearance; these white lines do not encircle the abdomen, but terminate uniformly on the sides. On the under surface of the abdomen these white rings again commence, which are much larger than those on the upper surface, causing the abdomen to look almost white. The tail terminates in a bifurcated sheath, enclosing a long blunt sting, projecting considerably beyond the tail, and forming a very prominent feature in the general figure of the insect. This is a small slender insect, much longer than the honey bee but not so thick.

Now it is evident from its specific character, as well as from its parasitic nature, this insect belongs to that numerous class called *ichneumons*, of which there are upwards of five hundred species. As I am not at present in possession of any practical work on Entomology, I cannot determine the species of this ichneumon, but to show that it differs in some respects from the family to which it belongs, I will quote a paragraph from a work before me, in which are set forth some peculiarities belonging to that class of insects as a genus:

> "The whole of this singular genus have been denominated parasitical, on account of the very extraordinary manner in which they provide for the future support of their young. The fly feeds on the honey of flowers, and when about to lay her eggs, perforates the body of some other insect, or its larva with its sting or instrument, at the end of the abdomen, and then deposits them. The eggs in a few days hatch, and the young larvæ, which resemble minute white maggots, nourish themselves with the juices of the foster parent, which, however, continues to move about and feed until near the time of its changing into a chrysalis, when the larvæ of the ichneumon creep out by perforating the skin in various places, and each spinning itself up in a small oval silken case, changes into a chrysalis, and after a certain period they emerge in the state of complete ichneumons."

It will be seen that there is a peculiarity attached to this ichneumon not included in the above description, that of appropriating the chrysalis as well as the larvæ of other insects, to the use of their young. All ichneumons that I ever read of spin their own chrysalis, but this is the prince of parasites, for not content with eating the substance of his neighbor, he seizes also on his house. So far as I have read concerning this curious family of insects, this is a nondescript. As an example of these insects called ichneumons, I may mention the *ichneumon seductor*, or dirt-dauber, well known to everybody as that wasp-like insect which builds its clay houses on the walls, and particularly in the recesses of windows to the great annoyance of the tidy housewife.

Thus is answered the question why the cotton fly did not again eat up the scant foliage which subsequently appeared on the stalks. This little usurper goes forth in search of 'whom he may devour,' and as soon as he finds a house built and well provisioned, he seizes upon it for his posterity, which he does in the following manner: when he finds a cotton worm he pierces it with the instrument with which its tail is armed, and deposits an egg; the cotton worm soon spins itself up into its case, there to await the period of its perfection, which never arrives, for soon the egg of the ichneumon hatches, and falls to devouring his helpless companion. This work of extermination continues until there is not a vestige of the cotton fly left. I venture to say, while I am now writing, (first of December,) there is not an egg, chrysalis, or fly, in the confines of the United States. My speculations on the nature and habits of the cotton fly have led me to adopt the following hypothesis: That it is a native of tropical climates, and never can pass a single winter beyond them, consequently never can become naturalized in the United States, or any where else where the cotton plant is not perennial, for nature has made no provision by which they can survive more than ten or twelve days, therefore they must perish wherever the cotton plant perishes during a period of five or six months. That wherever they have prevailed in our cotton growing regions, it is when they have become very numerous and consumed all the cotton in their native climes, and then go in search of their food in more northern climates. It is not to be presumed that this happens often, but the same remark will hold in regard to the cotton fly as it will to many other insects, that owing to some unknown cause they become exceedingly numerous, but at long and irregular intervals. The locust has already been noticed as an example, and many more might be cited. I however, will mention another to which I was an eye-witness: About eighteen years ago the *green*, or *blow-fly* became so numerous that thousands of animals perished by them, as also some human beings. The least spot of blood; the moisture of the mouth, eyes or nose, was sufficient to cause a deposit of eggs. Sick persons, particularly those who had not proper attention, suffered. Several negro children who came under my notice, fell a sacrifice to them, and it was with difficulty that many others were saved. In these instances the fly deposited the eggs within the nostrils, where they soon caused death by producing inflammation of the brain. This fly is annual, and scarcely ever deposits its eggs on an animal, except it be the victim of a running sore; but at the period alluded to above, it appeared that there was scarcely animal flesh enough to feed the maggots of this numerous host. It is but once within my recollection, that I have witnessed this phenomenon, and neither before nor since have I heard of such ravages of the green fly. Why they should have existed in such incredible numbers at the time referred to is a question not to be easily answered.

There are three circumstances upon which I found my arguments in support of my hypothesis of the cotton fly: First. Nature has made no provision by which it could survive the winter season. Second. The irregularity of their appearance. Third. Their progress from south to north, and from west to east.

It may be remarked on proposition first, that all insects included within the genus *phalena*, hibernate in the state of a chrysalis, therefore it is utterly impossible for the cotton fly to hibernate in that manner, as they remain but ten days in chrysalis. The fly does not hibernate, for the period of their existence is but ten or twelve days. It cannot be in the state of the egg, for it is a law equally inflexible with regard to this tribe, that the egg must be deposited on the leaf on which the larvæ are to feed, and the reason is very plain, for these larvæ, when first hatched, are minute living points, of an exceedingly helpless nature, almost devoid of locomotion, or possessing it in too small a degree to enable it to go in search of its food. But let us suppose that the egg does survive the winter, how does it happen that when the worm first makes its appearance it is found on the very summits of the cotton instead of the lower branches: parts that it would reach the soonest if it proceeded from the ground upwards.

The *phalcna mosi*, or silk worm, is an insect of the same genus as the cotton fly, and whose habitudes are very much the same as the latter, tropical in its nature, confining itself to a particular vegetable, the different species of mulberry, and being short lived in the chrysalis, remaining in this state but fifteen days. At the approach of winter, when the mulberry trees cast their leaves and remain leafless for many months, those insects, in our climate, would all perish, were they left to themselves. But art in this respect has triumphed over nature, for the silk grower at a certain season gathers a parcel of eggs and places them in a cold dark place until the mulberry tree shall again afford them food in the spring, and in this manner they are perpetuated, and this is the only possible way that they could be preserved here; they are like some tender exotic, which flourishes as long as the warmth of the hot house affords them a congenial atmosphere, but perishes if left to buffet the rigors of winter.

Proposition Second. Here I contend that when an insect is a native of or naturalized in any country, they are always governed by some invariable laws which determine their appearance. The grasshopper is annual, coming every spring or summer; the locust of our climate septem-decennial, appearing once in seventeen years, but the cotton fly has no regular periods of return, showing that when it reaches our climate it is by some casualty.

In proposition third, I maintain that if the cotton fly sojourned here during the winter or winters, that when it did appear at all, it would do so simultaneously through the whole cotton district, instead of which we see it progressing regularly from south to north, and from west to east.

Such are the speculations that I have entertained concerning the cotton worm, from which I conclude that it originates in South America, and reaches us through Mexico, and never can become a denizen of our soil.

Art. IX.—CALIFORNIA.

The people of the United States very naturally feel a very great interest in every thing connected with this *terra incognita*, bordering upon our territeries, and under the jurisdiction of a power with whom we are now at war. The military possession which we have taken of the country, and the important ends to be subserved by its retention or purchase, have not a little augmented this interest. In any case, we believe that the destiny of California is more nearly wrapped up in that of the republic of the north than of the central despotism which has hitherto claimed it as its own.

This territory became first known to Europeans in the romantic age of Corter, whose fleets navigated its gulf and its main stream, known as the Colorado of the west. The Jesuits peopled the country and ruled it until their overthrow left it in the hands of the Dominicans. Here it declined more rapidly than its previous progress. California resisted but feebly the arbitrary policy of Santa Anna in overthrowing the Constitution of 1824. In 1835, Mr. Forsyth offered, on the part of the American government, five millions of dollars for the country. Seven years after, Captain Jones, of our navy, seized upon its port of Monterey and raised the American flag in the mistaken belief that war had been declared between the two governments.

In a late supplement to the Philadelphia North American, a writer, from his individual observation and travels, gives many interesting particulars in relation to California, upon which we shall draw in the further progress of our remarks.

There are in upper California twenty-one missions. These have under their charge orchards of most abundant fruit, scarcely requiring any attention, such as peaches, pomegranates, plums, nectarines, oranges and apples; also vineyards of grapes in highest perfection.

There is a large commerce conducted with the Sandwich Islands, much of it in lumber. The red wood, a species of pine, grows to two hundred feet in heighth, is not hurt by worms, not easily rotted, makes excellent shingles and building materials. Another article of commerce is soap, it is of inferior quality, made with facility at little cost, and yields a very considerable profit. Wild and uncultivated cotton is found in the country; the Indians have it worked into blankets. The bushes are six to nine feet high. The pasturage for sheep, and the facilities of wool raising are unrivalled. The products of the water are salmon and salmon trout. The whale is killed in the very harbor of Monterey, and the seal and sea otter are not rare. Deer course the woods in great numbers. Elk are found in the San Joaquin Valley, and are taken with the lasso; the hide is used for leather, and the tallow for soap. The grissly bear, too, makes its unwelcome visits.

Horses exist in any quantity, wild. They have been slayed by hundreds to make use of their pastures for smaller cattle. It is said that Capt. Smith, of St. Louis, bought several hundred of them in 1827, at an average price of nine dollars, and that mares have been bought as low as fifty cents each. As many as forty thousand wild horses and mares have been seen at a time on the Tularer plains. In consequence of the scattered condition of inhabitants, horses are indispensable in California.

"All parts of California" says the correspondent of the North American "are not alike equal in fertility of soil. To the southward of San Luis Obispo the farmers consider they have a good crop of wheat if they gather thirty bushels for one of seed. Beans, corn, peas, melons, pumpkins, etc., etc., yield well all over California, but the most fertile land is from San Luis Obispo to the northward.

"I have mentioned the above as an example, that people may be on their guard, because I have already seen some of the persons who came over in the last emigration, who stated to me that they had been persons well to do, and that nothing in the world had tempted them to sell off their property and emigrate to California but the reading of a small book published by an American who had visited California, and that they had been most egregiously disappointed. That the fertility of the soil in most parts of California is most extraordinarily rich, no person can deny, or that its variety of soil and climate, which last is in all parts excellent, will enable it to produce an innumerable variety of vegetation is likewise not to denied, but as I wish to represent things as they really are, and as I have no interest whatever in deceiving any one, I shall contradict such absurdities whenever I fall in with them."

"I shall now," the writer continues, "give you an account with the descriptions of the principal classes of timber in California, beginning with the red-pine tree. This tree commonly grows from two hundred and fifty to three hundred feet high. I have measured one when felled that was three hundred and twenty-seven feet from the butt to the point or head; this was by no means an uncommon size tree, being but nine feet in diameter where it was cut off, and the largest ever I saw measured while standing was forty-two feet in circumference. I have heard of much larger ones, but never saw one; these trees all run very regular in their dimensions from the bottom to the top. The heart of a young tree begins to turn red at about six years old, the outside from two to three inches in thickness, always remaining white; the bark is stringy and difficult to cut through, even with the sharpest axe; it may well be compared to the husk of the cocoa nut. The leaf and burr are very similar to those of the spruce tree; and I have seen several trees felled in the spring of the year which have discharged as much as a barrel of water the moment the axe has struck the heart of them.

"The timber which this tree produces is invaluable for its durability, the worm does not enter it after it has been put to use, though while the tree is standing there is a worm which is very injurious to it, always entering at the bottom of the branches where the knot is almost equal to a flint stone, and always eats upwards, so that the tree is very often found to be sound and good as high up as the first branch, and above that is sometimes found greatly injured by the worm, but whenever this tree is cut down and dried this worm dies, and no other insect ever enters the wood, and if it is properly seasoned before being put to use, I cannot say if ever it rots at all, unless it is put in some place in the ground where it is exposed to the wet and dry seasons alternately, and even then it lasts an immense length of time.

"Several of the old houses in the mission of San Carlos were pulled down this year for the purpose of getting the timber they contained, and which was red wood, and the beams and lintels were as sound to all appearance, as the day they were put into these houses, which must have been some sixty or seventy years ago, and yet by driving the plane once over them, they showed as beautiful and bright a red as the day they were cut down.

"For shingles this timber has not its equal, either for the ease with which it is worked, or for its durability. I have seen a man make by hand, that is to say split, shave and joint, fifteen hundred a day for two months at a time.

"This tree is fond of hilly ground; it is seldom found on level places, but in valleys and on the sides and tops of mountains, it grows in immense groves, and the great demand there is for it in both this country and at the Sandwich Islands, proves the superiority of it to all other kinds of timber on the shores of the north Pacific Ocean. I have called it the red pine because I have heard many disputes amongst botanists as to its proper name, and it appears to me to resemble some species of pine nearer than anything else.

"From ten leagues to the southward of Monterey up to forty degrees north latitude, California abounds with the red wood tree, and the exportation market has increased to such a degree that at the present day a board of this species of wood cannot be bought in Monterey at any price, and several buildings have been stopped this year for want of this class of timber. Since July last, there have been no less than five ships in Monterey looking for a cargo of red wood boards, joists, or shingles, and none of them were able to procure as much as they required, merely for the want of laborers or capitalists who could turn their attention to this branch of commerce and industry.

"Monterey is half surrounded by groves of pines which extend in some places about ten miles back, in others two or three. These are of an excellent quality for ship masts and yards, when cut in the proper season; they are principally a sort of white pine, very tough, and run generally from thirty to one hundred and ten feet high, and from one to four feet in diameter, seldom exceeding the latter; the timber makes excellent flooring, but must be cut in the winter, and must be well seasoned before being used. Across the bay, at Santa Cruz, and to the northward, there are immense quantities of yellow pine. Samples of the red and white and yellow pine were last year taken to the Marquesas Islands by the French missionary ship Lyon.

"There are likewise several kinds of oak in California; the large black oak tree is very plentiful, though the trunks of none of them grow very high, yet there are some few places where the trunk of these trees grow as high as fifty feet clear of branches, but the common growth of them is from fifteen to thirty feet, seldom exceeding the latter clear of branches.

"About twelve miles to the southward of Monterey is a large cypress grove; this is another very valuable class of timber, both for its beautiful clear grain, and for its durability. This tree does not grow large here; they run commonly not over seventy or eighty feet high, and at about twenty-five or at most thirty feet from the ground, they begin to branch out, consequently the timber above that height is unserviceable.

"Button-wood, willow, poplar, alder, cotton-wood, and black and white ash, are very abundant all over the country, and some of these grow to an immense size, but are very little used except for fencing or building wooden huts in the roughest style. There is likewise a species of shrub oak growing in this country very abundantly, but I know of no other use it can be put to but fire wood, and for this purpose it is excellent, though many people say the bark is very excellent for tanning. The tree scarcely ever grows eight feet straight up; it generally begins to grow crooked from its very root; sometimes vessels use it to make knees, but I do not believe it is durable, and the maggot generally gets into it the first year after it is cut down.

"On the borders of the Sacramento river and in the Sacramento valley, besides the different species of timber already mentioned, will be found the walnut, hickory, maple, and several other kinds of timber. In short, if California were as well watered (though this is not scarce,) as it is wooded, it would surpass every country in the known world."

The population of California is mixed aborigines, Spanish, and foreign, and does not exceed in all thirty or forty thousand. The fur traders from the United States are scattered every where in this territory, especially about the shores of the Colorado.

The soil in general, especially in the vicinities of the Pacific, is sterile. Rains scarcely ever prevail, and for years hardly a shower is known. Fertile spots exist on the Colorado, but the region has not been much explored. The vicinities of St. Francisco Bay, and St. Bernard are exceptions, and exhibit great fruitfulness. There are no rich veins of gold in the interior, and the pearl divers on the Gulf find rare and precious varieties of that beautiful and valued commodity.

Art. X.—TESTAMENTS UNDER THE CIVIL LAW ADVERSE TO THE RIGHTS OF HEIRS.

MANUMISSION OF SLAVES.

MADRID, April 17, 1847.

J. D. B. DE BOW, Esq.,—

My Dear Sir:—You do me the honor of requesting a contribution to your valuable Review, and I accordingly now transmit you for publication, if suitable for your journal, an opinion which I prepared with care and after much investigation, for the counsel in the Randolph will case, who were engaged to sustain the will of the late John Randolph, of Roanoke, manumitting his slaves. I trust the subject may be of interest to Louisiana jurists, and induce your readers to pardon any defects they may discover in a production which it is but just to myself to add, was not prepared originally with any design for publication, and is now submitted to you with but a verbal alteration here and there.

I am, dear Sir, very truly yours,

THOMAS CAUTE REYNOLDS.*

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* Mr. Reynolds has received the honorable appointment of Secretary to the legation of the United States at the Court of Madrid, and is engaged in the prosecution of those studies in which at comparatively an early age he has won high and deserved honor. He is a citizen of South Carolina, and received the advantages of legal education in the best institutions on the continent. His *thesis* was published some years ago on the *Origin of the Trial by Jury*, in the Latin tongue, with German notes, and was highly commended by the late U. S. Attorney General, Hugh S. Legare. It affords us pleasure to furnish anything from the pen of our former fellow-citizen, and to announce that he has been lately appointed by the State of Louisiana to search the records of Madrid and Seville for its early documentary history. In relation to the duty, Mr. Reynolds thus remarks: "The archives of Spain are at Simancas, near Seville; those of the Indies, which comprise the chief part probably of all the Louisiana archives, are at Seville. The latter I have seen, and they are admirably arranged; of course I saw only the outside of the bundles."

I AM requested to give a statement of the doctrines of the civil law concerning the extent to which dispositions of a will injurious to the heirs at law affect its validity, and particularly the presumption of insanity in the testator, which may be raised by such dispositions.

This I can best do by stating the rules of the civil law which relate to the *querela inofficioso testamenti*, or as it is more concisely termed, *querela inofficiosi*. As the provisions in reference to slaves are but incidentally alluded to in most modern works on the civil law, I have had to seek for the greater portion of the information which the subjoined opinion concerning them required, in the *corpus juris civilis* itself, in the Titula relating to *Testamenta Inofficiosa* and kindred subjects, I have for the same reason been very particular in copying the authorities, *literatim et verbatim*, and *fully*, that it may be seen that I have not stated the doctrines on the subject imperfectly or partially. As there are no *overruled cases* in Justinian's Code, all the passages cited from it may be relied on as *law*. Where I have quoted modern authority, it has been that of Heineccius, whose name in the civil law is equalled in weight by but very few.

QUERELA INOFFICIOSI.

By the laws of the XII. Tables, every Roman citizen was allowed to dispose of his property, by will, in any manner that he chose, without regard to the claims of his heirs at law. But some cases of very gross injustice having occurred,[1] the Prætor, or Roman Chancellor, about the period of Cæsar's wars in Gaul, was induced, in a few cases, to interfere. The heir at law made to him, in his Centumviral Court, a complaint that the will was contrary to reason and duty, (*officium pietatis*, and alleged that the testator was insane when he made it. On this complaint (*querela inofficiosi testamenti*,) the court taking the will itself as conclusive proof of such insanity, (which, however the Roman jurists[2] expressly state was not considered by them to be proof of insanity *in fact*, but only an equitable fiction on which to ground the decision,) set aside the will and gave the estate to the heirs at law.

An outrageous case having occurred, that of a father who bequeathed his immense estate to a mean person, leaving his infant child entirely destitute, (vide Val. Max. VII. 7, 3,) Augustus moved, as some suppose* by these circumstances, caused the famous *Falcedian law* to be passed thirty-eight years before the birth of Christ. It ordained that Roman citizens should be permitted, as heretofore, to dispose of their estates by will to whomsoever they chose, provided one-fourth remained[3] to the heir or heirs at law, (*heres heredesve:* not the heirs at law, but the heir named in the will; in our law the *executor and residuary legatee*,) in order that the estate might not be burthened with legacies as to leave him nothing for his trouble, (and the expense of keeping up the costly *sacra privata* offering to the *manes* of the deceased, etc.[4]) This law underwent several modifications, and was at last virtually abrogated by Justinian.[5]

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[1] Some are to be found in Valerius Maximus, vii. 7.

[2] Justiniani Instit. (II. 18) de inofficioso, (primordio:) "non quasi *vere* furiosus sit, sed *recte* quidem fecerit testamentum, non autem ex officioso pietatis. Nam si *vere* furiosus sit, *nullum* testamentum est."

* Heinneccii Antiq. p. 443, nota *b*.

Separate from this was the *querela inofficiosi testamenti*, which was a complaint by the heir at law (*heres ab intestato*) that the testator had, in a state of insanity, left him either nothing at all or less than he was in duty (*ex officio pietatis*) bound to leave him. In determining when a testament should be annulled as *inofficiosum*, or *undutiful*, the courts were guided by the *analogy* of the Falcidian law, and when the heir at law was left by the testator at least one-fourth as much as he would have received had no will been made, they would not entertain the *querela inofficiosi testamenti*, but sustained the will,[6] though at first they seemed to have been guided by the particular circumstances of each case, and not to have made this particular proportion the invariable test.

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[3] Caput secundum of the Lex Falcidia, contained in *b.* 1 Digestorum, ad L. Faldiam (xxxv. 2) is as follows: "Quicumque civis Romanus, post trane legem rogatam, testamentum faciet, is quantum cuique civi Romano pecuniam jure publico dare, legare volet, jus potestasque esto: dum ita detur legatum, ne minus, quam partem quartam hereditatis eo testamento heredes capiant, etc"

[4] Heineccii Antiquitates Jur. Rom. lib. II. Tit. 20–22: (Instit. Justiniani,) § 18. "Ea [lex Falcidia] enim *non permittet* heredi, quadrante *accepto*, hereditatem repudiare, sed testatorem obstringit, ut quartam, heredi salvam relinquat, idque si non fecerit, herede potestatem facit, tantum *detrahendi legatariis*, quantam deesit quartæ suæ." See also the same work, eodem loco, § 15.

[5] Heineccii id. op. loco eod. § 20: "Verum Legis Falcidiæ vires maxime elisit Justinianus, permissa facultate testatoribus utiliter prohibendi Falcidiæ detractionem, quum antea hujuscemodi voluntati, quantumvis expressæ, heredes minima parere cogerentur." I presume Heineccius refers to this clause, "Quodsi expresse, etc.," in § 2, cap. II. Justiniani Constitut. *Novell.* I. de heredibus et lege Falcidia.

[6] Heineccii id. opus, Liber II. Tit. 17–19, (Justinian Instit.) §7. "Ceterum cessabat querela, relicta legitima, seu certa et legibus definita bonorum portione. Ea olim semper erat hereditatis *quadrans*: L. 8, § 6 et 8, *Dig.* de Inoff. test., L. 2. *Codicis* de Inoff. donat. * * * * nec non post hos Ant. Schult. ingius *Jurispr. Ante just.*, p. 381. docuerunt, legitimam illam portionem ex legis Falcidiæ *rationibus* prudentem interpretatione esse *inductam*. Sani heredibus, quibus inofficiosi querela competit, QUARTAM FALCIDIAM deberi, disertis verbis dicunt Paulus, *Sententt. Receptt* IV. 5. 5. et Ulpianus *L.* 8, § 9 *et* 14, *Dig. de Inoff. testam.* Absolute quoque illam portionem QUARTAM vocat Plinius *Epistt. V.* 1. et FACIDIAM Justinianus, *L.* 31, *Cod. de Inoff. test.* "The opinion of the courts (*doctrina prudentum*) seems only gradually to have thus fixed itself: for Ulpian. in stating that the gift of the *Quart* "*mortis causa*," would exclude the *querela in test*,, modestly says "*puto*," (*l.* 8, § 6, D. de *Inoff. test.*), while the emperors Valerian and Gallienus speak, in a constitution of A. D. 256, (*l.* 2, *Cod. de Inoff. donat*,) of "quarta pars debitæ ab intestato portionis," and Justinian, A. D. 528, (*l.* 31, *Cod. de Inoff. test.*) still more distinctly says, "legitimæ portioni, *id est*, quartæ parti scilicet ab intestato successioni."

Who were entitled to this relief?

At first this point does not seem to have been very definitely settled, and the Prætor, or Chancellor, was often disturbed by applications for it on the part of distant relatives of the testator; for Ulpian quaintly advises all heirs at law beyond the degree of brother, not to put themselves to the useless expense of making this querela, as they could not obtain a decree in their favour. It was soon confined to brothers (and sisters) and nearer relatives in the ascending or descending line, (Note 7.) But Constantine the Great, in the year of Christ 319, prohibited altogether the granting of it to uterine (or half) brothers and sisters, or to full brothers and sisters unless the persons named as heirs in the will was a reputable character in the eye of the law.[8]

The heir at law making this complaint must also not have rendered himself unworthy of the bounty of the testator. What acts should be deemed sufficient to render him such, it was left to the opinion of the court to decide according to the circumstances of each particular case, until Justinian (*Novella* 115) specifically enumerated them and ordained that no others, except those so mentioned by him, should furnish a sufficient excuse to the testator for diminishing the portion the heir at law was entitled to, or entirely disinheriting him; These acts are all of a highly criminal or disgraceful nature, such as attempting the life of the testator, turning informer against him in cases in which the crime was punished by death, associating with sorcerors, becoming a public gladiator, heretic, etc.

An important practical question was, how was this fourth (*Quarta Falcida, portio legitima*) to be calculated?

1. The slaves whom he manumitted were excluded from the valuation.[9]

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7. *Lex* 1. *Dig.* (*V.* 2) *de Inoff. test.* says: "*Ulpianus, libro xiv. ad Edictum.* Sciendum est frequentes esse inofficiosi querelas; omnibus enim tam parentibus quam liberis de inofficioso licet disputare. Cognati enim proprii, qui sunt ultra fratrem, melius facerunt, si se sumptibus inanibus non vexarent, quum obtinendi spem non habeant."

8. *Lex.* 27 *Cod. de inoff. test.* "Fratres vel sorores utorini ab inofficiosi actione contra testamentum fratris vel sororis *penitus arceantur: consanguinei* autem, durante agnatione vel non, contra testamentum fratris sui vel sororis de inofficiosi quæstionem movere possunt, si scripti heredes [*the heirs in the will*] infamiæ, vel turpitudinis, vel levis notæ macula adspergantur, vel liberti, qui perperam, et non bene merente, maximisque beneficiis suum patronum assecuti, instituti sunt, excepto servo necessario herede instituto." *Necessarius heres* in a slave whom an insolvent testator appoints his heir—so called because he cannot refuse to take the estate, but is, ipso facto, heres.

9. Justinian. Inst. (I. 7) de Legi Fusia Caninia tollenda. "Legi Fusia Caninia certus modus constitutus erat in servis testamento manumittendis. Quum quasi libertates impedientem et quodammodo invidiam, tollendam esse censuimus, quum satis fuerat in humanum, vivos quidem licentiam habere, totam suam familiam [*slaves*]

2. His debts and funeral expenses were to be paid.

So great indeed was the favour with which the civil law regarded these manumissions, that it upheld them, though the estate was insufficient to pay the debts, provided only that the manumittor did not *design* thereby to *defraud* his creditors.

The course of proceeding would hence be this:—

1. The debts and funeral expenses should be paid and the slaves manumitted whom the testator had directed to be freed.

2. The remainder of the estate would be valued, and if the heir or heirs at law, being related to the testator in the ascending or descending line, found that the portion bequeathed to him or them was less than one-fourth of the share he or they would be entitled to, (of the

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libertate donare, nisi alia causa impediat libertatem, morientibus autem hujusmodi licentiam adimere." This *Lex Fusia Caninia* (passed two years B. C.) established the proportion (*modus*) of his slaves which the testator should be permitted to free, and in no case was the number manumitted to exceed one hundred. A *Lex Ælia Sentia* was passed A. D. 3, which laid numerous restrictions on the manumission of slaves by their masters *inter vivos*. It prohibitted especially manumission *in fraudem creditorum*. Yet this rule prevailed *in favorem libertatis*: "Prævaluisse tamen videtur, nisi *animum* quoque *fraudandi* manumissor habuerit, non impediri libertatem, *quamvis bona ejus creditoribus non sufficiant*." (J. Qui et quibus ex causis manumittere, etc. § 3.)

With this leaning of the Roman law and of the courts which administrated it, it is not surprising that the rule soon prevailed that manumitted slaves did not come under the provisions of the Falcedian Law, and consequently that the diminution of the portion of the heir at law by their manumission was not a good foundation for the *Querela Inofficiosi*. Accordingly we find Ulpian, in *l. 8*, *Dig. de inofficioso testamento*, expressly saying: § 9 "Quarta autem accipietur scilicet deducto aere alieno et funeris impensa. Sed an et libertis quartam minuant? videndum est, et numquid minuant? Nam si, quum quis ex asse heres [*sole heir*] institutus est, ideo non potest dicere inofficiosum, quia habet Falcidiam, Falcidia autem libertatis non minuit, potest dici, *deductis libertatibus* quartam ineundam. *Quum igitur placet, quartam minui per libertates*, eveniet, ut, qui servos *tantum* habet in patrimonio suo, *dando iis libertatem* inofficiosi querelam EXCLUDAT, etc." Justinian says, (Inst. de Legi Falcidia:) "Quum autem ratio legis Falcidiæ ponitur, ante deductur aes alienum, item funeris impensa, et *pretia servorum manumissorum;* tunc deinde in reliquo ita ratio habetur, ut, etc." The same rule is laid down in l. 39 D. de Legi Falcidia, in ll. 33, 34, 35, D. eod., in l. 1, § 11, 12, D. *Si qui plus*, in several ll. D. de manumissis testamento: D. de fidei commissariis libertatibus, etc. By *analogy* to this interpretation of the *Falcidian* law, it would necessarily be determined that in ascertaining the *portio legitima* (*quarta*), the denial of which would entitle a party to the *querela inofficiosi*, the *pretia servorum manumissorum* must, as well as the debts and funeral expenses, be first deducted, in order to arrive at the amount one-fourth of which constituted the *legitima portio*. We accordingly find Ulpian affirming this principle in the passage quoted above, and Paulus, the highest authority known to the Justinian Code, (a very large portion of the digests being taken from his works), in his Receptæ Sententiæ, Lib. iv. tit. 5, de inofficiosi querela, places it beyond a doubt: he says. § 5: "Filius exasse heres institutus inofficiosi dicere non potest: *nec non interest exhausta nec ne sit hereditas:* cum apud eum quarta aut legis Falcidiæ aut senatus-consulti Pergasiani beneficio sit remansura. § 6. Quartæ portionis portio liberis, deducto aere aliano at funeris impensa, præstanda est, ut ab inofficiosi querela excludantur. *Libertatis quoque eam portionem minuere placet.*" As the [Pauli Recept. Sententt.] Interpretatione Visigothica has it: "de asse hereditatis primo loco defuncti debita detrahuntur, et expensa quæ in funere ejus est præstita: *sed et collatæ licertates nihilominus debebuntur.*"

estate *minus* the liberated slaves, debts, etc.,) had no will been made, or he or they been made *heres heredesve exasse*, (*i. e.*, of the estate unincumbered by legacies), he or they, or any of them, could renounce the will and apply to the prætor to rescind it, as inofficiosum, alledging that the testator was insane when he made it. But though the estate were even entirely exhausted by manumissions, the heir could not complain: the contrary when it was diminished or exhausted by legacies.

3. Brothers and sisters receiving under a will less than the one-fourth above defined, could complain and have it set aside (they, of course, being the next of kin) *only* when a base and disreputable person was made the recipient of the portion to which they would be entitled had no will been made.

4. Uterine brothers and sisters, and all more distant collateral relatives, and all relatives who had rendered themselves unworthy of the bounty of the testator, were entirely excluded from the benefit of this querela, *whatever* might be the provisions of the will.

REMARKS.

It is to be noted that,—

1. The *presumption* of insanity raised by an inofficious testament, was a mere equitable fiction: unless the heir made his *querela* within five years, the will was good, while a will made by a man really insane was *null* and never could become valid. Consequently, in a system of law in which no such fiction has been established, a testament deemed by *Roman* law inofficiosum, cannot, even by any reasoning *drawn from* the Roman law, be deemed presumptive evidence of *real* insanity: and indeed the Roman law expressly declares that it is not.

2. Even this fictitious presumption could not be raised, when the heir was deprived of his (otherwise) legitima portio, by the manumission of slaves, even to the entire extent of the estate and though the testator thereby cut off his own deserving children. As the Roman law considered this disposition of his estate by the testator to rebut the presumption which it in other cases particularly cherished, it must have held such a will to be, if I may use so quaint an expression, an *especially sane* one, and if any presumption at all is to be drawn from the reasoning of the Roman law with regard to such a will, it must be one in *favour* of the *sanity* of the testator.

3. Brothers and sisters of the full blood could object to their share (suppose a cherished family seat, for instance,) being given to infamous persons, while uterine brothers and sisters, and more distant collaterals could not complain though even a common felon were made heir in

their place. Hence the exclusion of relatives in those degrees is not only not presumptive evidence of insanity, but, as the Roman law bid the presumption, which it raised in other cases, here cease, rather according to the reasoning of that law, a quasi presumptive evidence of sanity.

When, in addition, the estate is diverted from relatives in those degrees for the purpose of manumitting slaves, the presumption of sanity is strengthened, for the Roman law considered, as I have before in substance said, such a will to be of *itself* so sane as to destroy the presumption of insanity which was feigned to sustain the *querela inofficiosi*—it contained on its face, so to say, so strong a presumption of sanity, that the fiction on which the querela was based, had to yied to it.

Art. II.—ANALYSIS OF TEXAS SUGAR SOILS, ETC.

MODES OF ANALYSIS, TESTS OF SOIL, ETC.

New Orleans, June 4, 1447.

J. D. B. De Bow, Esq.,—

Dear Sir:—In reply to your note of the 5th ult., accompanying three specimens of soil from the plantation of Gen. Hamilton, in Brazoria county, Texas, I stated that in consequence of so much of my time being occupied in official duties, it would be impossible for me to make a complete and careful analysis, but that I would make such a partial examination as would enable you to form a tolerably correct general opinion of the soil.

Sir Humphrey Davy says:

> "It is of importance that the specific gravity of a soil be known, as it affords an indication of the quantity of animal and vegetable matter that it contains; these substances being always most abundant in the lighter soils." (See Brande Chemistry.)

I found the specific gravity of the Cane soil, No. 1, to be 2.235, of the Peach soil, No. 2, to be 2.110, and of the Elm soil, No. 3, to be 2.190. According to Sir H. Davy's rule, No. 2 should contain most organized matter; and No. 3 more than No. 1.

The next indication of the fertility of a soil is taken from the quantity of Hygrometric water which it contains. On this subject Davy observes:

> "The loss of weight in the process should be carefully noticed, and when in 400 grains of soil it reaches as high as 50, the soil may be considered as in the greatest

degree absorbent and retentive of water, and will generally be found to contain much vegetable or animal matter, or a large proportion of aluminous earth. When the loss is only from 20 to 10, the land may be considered as only slightly absorbent and retentive, and siliceous earth probably forms the greatest part of it." (Vide Brande.)

The Hygrometric water contained in the soil No. 1 amounts to 5 per cent, or 20 grains in 400 grains of soil; it is the same in No. 2: and in No. 3 it amounts to 10 per cent, or 40 grains in the 400 grains of soil. From this I should infer, if Sir H. Davy is correct in his remarks, that Nos. 1 and 2 are drowthy soils, requiring a great deal of rain to produce fine crops, while No. 3 would require much less. I am confirmed in this opinion by the simple experiment of saturating a portion of each soil with distilled water, which is suffered to evaporate in the open air in common glass tumblers. The three varieties, on becoming dry, cracked and finally separated into distinct masses.

Pursuing the subject regularly, the next thing that claims attention is the per centage of organised matter. No. 1 contains 11.5 per cent, or 46 grains in 400 grains of the soil; No. 2 contains 7.895 per cent, or 31.5 grains in 400 grains of soil; and No. 3, 6.75 per cent, or 27 grains in 400. I have not had time to compare these satisfactorily with the results obtained from other soils.

Sir H. Davy speaks of a good turnip soil in Norfolk (Eng.) which contained of vegetable and saline matter but 5 per cent; of another soil in Sussex, remarkable for producing flourishing oaks, which gave but 4 per cent of vegetable decomposing matter; and of an excellent wheat soil in Middlesex, which yielded 11 per cent of animal or vegetable matter and moisture. Speaking of "a good silicious sandy soil from a hop garden near Tunbridge, Kent," he observes "400 grains of soil yielded 19 grains of water of absorption, which must be the same thing as hygrometric water, and 15 grains of matter destructible by heat, principally vegetable, which probably includes all the organised matter."

In the American Journal of Science and Arts, vol. XL, No. 1, January, 1841, page 191, there is an analysis of the soil of the Nile by Dr. Jackson and B. Siliman, Jr., in which the per centage of vegetable matter is set down as 6.90. And in the analysis of the soil of the Mississippi, conducted by Professor Riddell and Mr. Chandler in the spring and summer of 1846, the organic matter amounts to only 3.10 per cent.

Organised matter is certainly one of the elements of fertility in soil, and in this respect the specimens from Texas will compare favorably with the most fertile soils in the world.

On treating the burnt soils, after the expulsion of the organised matter, with distilled water and a few drops of Muriatic acid, effervescence was clearly perceptible in the cane soil No. 1. This was anticipated, as fragments of small shells of the genus Aelix, but too much broken up to allow the variety to be detected, abound in that soil. In the other specimens there was no appearance of effervescence.

Muriatic acid was then added to each vessel containing soil; after boiling a sufficient time to allow the acid to take up all the ingredients accessory to the nourishment and growth of plants, and washing, filtering and drying the residium, the loss of No. 1 was found to be 10 per cent, No. 2, 8.5, and No. 3, 15 per cent; the insoluble residue consists of silicates not yet examined; the quantity of iron may probably be between 5 and 8 per cent, though it is evident that most will be found in No. 3. I may hereafter complete the analysis, should I have sufficient leisure.

From the foregoing experiments it is inferred, that in all three specimens of soil, clay predominates over sand, in the form of silicate of alumina. There is most clay in No. 3, and least in No. 2.

All these soils require a great deal of rain to produce full crops. No. 3 containing the most Hygrometic water, probably requires less than the other two. With sufficient rain and proper management, they may be considered as fertile, durable, and valuable soils.

Respectfully, your ob't sv't,

WM. P. HORT, M. D.

N. B.—THE SPECIFIC GRAVITY OF A SOIL IS THE RELATION OF ITS WEIGHT TO THAT OF WATER.

Sir H. Davy's rule is "to introduce into a phial which will contain a known quantity of water, equal volumes of water and soil; and this is easily done by pouring in water until it is half full, and then adding the soil till the fluid rises to the mouth; the difference between the weight of the soil and that of the water will give the result."

The rule I adopted was one devised by Professor Riddell. It is as follows:

a=weight of a phial full of pure water.
b=weight of soil,
c=weight of the same phial, containing the soil and then filled to the mouth with water.
Required x the specific gravity of the soil.

$$1=\text{vol. water} : \frac{1}{\text{vol. soil}} :: 1 : x.$$

$$\frac{1}{\text{vol. soil}}=x.$$

$\frac{1}{x}$ =vol. of the soil, water being 1.

$\frac{b}{x}$ =actual volume of the soil.

So $\frac{b}{x}$ =weight of water of volume $\frac{b}{x}$

b= weight of soil of do. $\frac{b}{x}$

$$b-\frac{b}{x}=c-a$$

$$\frac{b}{x}-b=c\,x-a\,x$$

$$b\,x+a\,x-c\,x=b$$

$x=\frac{b}{a+b-c}$ =specifiic gravity of soil required.

Actual weights—
$a=627.5$, then $627.5+200-738=89.5$, and
$b=200$
$c=738$ $200\div89.5=2.235$ specific gravity.

The hygrometric water may be called the water of absorption, which no heat of the sun can separate from the soil. An artificial heat, therefore, must be used. The soil, after being pulverised and weighed, is placed in a silver dish on a sand bath previously heated to 300° Fahr. In about an hour the water will be evaporated, and the loss of weight in the soil indicates the quantity of hygrometric water.

To ascertain the amount of organized matter, including animal and vegetable matter, I introduced the dry soil, placed in a plantinum crucible, in the muffle of an assay oven, and gradually heated it until a red heat pervaded the whole mass of the soil. This degree of heat is estimated by some of the French assayers as high as 30° of Wedgewood's pyrometer. The weight of the soil when cool will show the loss sustained by burning, which loss is the amount of organised matter in the soil.

The remaining parts of the analysis having been sufficiently explained, I have only to say that it will readily occur to you that the effervescence spoken of, indicated some carbonate, but having seen the fragments of shells, we are certain that it was carbonate of lime.

There are other circumstances with which chemistry has nothing to do, which are of great importance in determining the fertility and durability of a soil. 1st. The depth of the soil; 2nd. The foundation or stratum on which it rests, and, 3rd. The size and description of trees which grow upon it. In a practical point of view, so far as the fertility of the soil is considered, these natural indications throw as much light on the subject to an experienced planter, as chemical analysis, but in manuring, the importance of chemistry is easily understood. Analysis determines which of the component parts of the soil contributes most to the nourishment of the peculiar crop planted on it; and knowing in what respect the soil is exhausted, the enlightened planter will know how to restore and preserve its fertility. Knowledge on this subject will ere long become very accurate, for chemists are vigorously pushing their researches, and analysing every portion of the plants cultivated by man for necessary or useful purposes.*

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Art. XII.—DIRECT TRADE OF SOUTHERN STATES WITH EUROPE.

This subject is once again receiving attention, and is, we hope, not destined to another deep and protracted sleep. If the South is to have her due weight in the commercial movements of the world, and not to play a *subordinate* part, she will no longer delay action.

New Orleans, Mobile, Charleston, Savannah, and Richmond may not be the entrepots of *domestic* and coastwise trade alone. It is possible for them to be the rivals of New York, Boston, Philadelphia, and Baltimore on the seas.

New Orleans is already reaching for a line of steamers to Europe. Is there another point more important for these steamers? Has Europe a nearer affinity with any other portion of the United States than with the great mart that supplies so much of the clothing and the bread for her working millions; and will we stop with a line of steamers?

"The exports last year," said Lieutenant Maury in 1845 to the Memphis Convention, "from the single port of New Orleans, were $54,000.000; from the whole country, $100,000,000. The value of the duty paying imports for the same year, was, according to official return, $84,000,000; and the duties collected on them, $29,000,000. In simple fractions, the average rate of duty is over one-third the value of the goods. Against these $54,000,000 of exports, New Orleans imported goods enough to yield a revenue of only $1,600,000 to the customs. According to the above rates, the value of these goods was therefore $4,800,000. Now, supposing these imported goods to be as bulky as the raw material sent out from New Orleans, (which is by no means the case,) it appears that ten vessels out of every eleven that came across the sea, for this Southern produce, came empty, and therefore this produce had to pay the freight both ways. It is true that some vessels came with cargoes from New York and Boston, and brought dry goods, furniture and coffins, but this only shows that as far as the foreign merchandise was concerned, New York, Boston, &c., did the importing for New Orleans."

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* For a complete analysis of the soil of the Mississippi delta, the reader is referred to Commercial Review, December, 1846.—Editor.

We were turning over a package of old and valuable documents that had been stored away in our library, a few days since, when it chanced that several pamphlets embracing the proceedings of Southern and Western merchants on the subject of this trade and commerce, came to light. We turned over their pages with great interest, and marvelled that a movement begun in such a spirit and prosecuted for a time with so much vigor, could at last have been suffered to die away and pass as it were from memory. Where are the men that instituted the Conventions of Augusta, of Charleston, and of Macon? Where are those delegates from the Carolinas, and Georgia, Alabama and Tennessee, Florida and Mississippi, whose enterprize appeared to have no bounds? It is scarcely ten years since then. Has everything been achieved that was desired, or has despair seized upon them to deaden and destroy their energies. We would recall those scenes and times. We would bring upon the stage again the actors and the events. Perchance the day will come—a better and a brighter one for the South, for which they sighed.

The last of these conventions was, we believe, held in 1839. There were present from South Carolina, 170 delegates, from North Carolina, 3; from Georgia, 33; from Alabama, 5; from Tennessee, 5; from Florida, 3; Mississippi, and Louisiana, were not represented.

Among the resolutions adopted were the following:—

"*Resolved*, 1. That the commercial capital and credit of the Southern and South-Western States should be so extended and enlarged, as to enable our merchants to carry on the business of direct importations on an extensive scale, and on the most advantageous terms.

Resolved, 2. That for this purpose, it is highly important that a portion of the capital now absorbed in other pursuits, should be directed to commerce, for which the strongest inducements are now offered by the passage of laws in several of the States, authorizing the formation of limited co-partnerships, and from the reasonable assurance that such investments will be as profitable to individuals as they must be beneficial to the community.

"*Resolved*, 3. That our Banks should extend all the aid in their power to this trade, and afford the necessary facilities for carrying it on successfully, by enlarging the capital and extending the credit of those who may engage in it, to the utmost extent consistent with the safety of these institutions and the public welfare.

"*Resolved*, 4. That the proper efforts should also be made to bring in foreign capital and credit, in aid of the resources of own country, and that for this purpose suitable agents should be sent abroad to induce foreign capitalists and merchants to establish agencies and form co-partnerships in our cities, with the assurance of their receiving a cordial welcome and zealous support.

"*Resolved*, 5. That similar efforts should be made to bring about a co-operation between our merchants and capitalists, and those of Europe, for the purpose of immediately establishing lines of packet ships and steamers, whereby regular communications, at stated periods, may be secured—and that all other proper measures should be adopted to effect as speedily as possible, this all important object.

"*Resolved*, 6. That in the opinion of this Convention, it is essential to the success of any scheme of direct importation, that a demand should be created in our own ports for all the goods so imported, which can only be effected by opening free communications with the interior by an extensive system of railroads, canals, and turnpikes, by which the merchants of the interior may be enabled to lay in their supplies on better terms than they could procure them from any other quarter.

"*Resolved*, 7. That among the measures auxiliary to the important objects we have in view, this Convention cannot but regard as of deep interest and importance, the adoption of the proper means for introducing COMMERCIAL EDUCATION among the youth of our country—the training them up to habits of business and thereby establishing a body of merchants, whose every interest and feeling shall be identified with the country which has reared and sustained them."

"*Resolved*, 8." This resolution applied to the revival of the old "*Southern Review*," of the palmy days of Southern literature, the objects of which were the defence of our institutions and the *developement of the resources* of the slaveholding States.

A committee of twenty-one, of which the venerable and distinguished Chancellor Harper was chairman, and of which the following individuals were members, prepared the report. To our citizens as deserving of preservation and extended circulation, we shall present it in another number of the Review.

COMMITTEE.

William Harper, Robert Y. Hayne, G. A. Trenholm, J. K, Douglass, F. H. Elmore; C. G. Memmenger, A. Blanding, *from South Carolina.*

William Dearing, A. D. Miller, D. C. Campbell, A. H. Stevens, J. Phinizy, J. Cowles, *from Georgia.*

John H. Crozier and Thomas C. Lyon, *from Tennessee.*

Abner McGehee, E. A. Holt, *from Alabama.*

Mitchell King, William Patten, *from North Carolina.*

James Gadsden, Wm. J. Mills, *from Florida.*

* * *

Art. XIII.—RAILROAD ENTERPRISES AT THE SOUTH.

The people of South Carolina are still alive to the importance of bringing their sea coasts into contiguity with the mountains, and giving a market to the produce so abundantly grown there. There have been several conventions held, to some of which we have referred, and to others shall refer at this time.

The convention of the COLUMBIA AND GREENVILLE Company lately met in the former city, and was presided over by the Hon. Joel R. Poinsett. It proceeded to organize and elect officers and make such arrangements as might be necessary in carrying out the enterprise. The Hon. J. B. O'Neal was elected President of the company.

This convention, on the motion of A. G. Summer, Esq., unanimously adopted the following resolution, for which it may be argued, we feel no little gratulation.

> *Resolved,* That it is with pleasure we learn our late fellow-citizen, J. D. B. De Bow, Esq., now of New Orleans, hereafter intends to devote a large portion of the COMMERCIAL REVIEW to the Railroad interest in the South, we therefore heartily recommend that work to the patronage of all persons interested in such enterprises.

The Convention at Charlotte was well attended by delegates from North and South Carolina. The report on the road to that place from some point of the South Carolina road was read by our friend Wm. H. Trescott, Esq., of Charleston, who it delights us to perceive is ever ready to give his time, service, and intelligence to matters of this character. How far preferable is this to the course of stormy politics in which most of our rising young citizens indulge.

The Columbia South Carolinian speaks in high terms of the ends to be accomplished by these projected roads, and of the country through which they are to pass.

> Immediately above this, we have a fine cotton region, capable of producing four times as much more cotton as it has ever grown. Then follows a grain, fruit and tobacco country, characterized by abundance, and fertility, possessing advantages of climate unknown to the grain growing regions of the North, and adapted to infinitely more varied productions. This region extends to the foot of the mountains, and in addition to the cereal productions, immense quantities of the finest hay can be made, which, from its bulk, has heretofore been left to rot in the beautiful meadows of North Carolina. These two railroads take in all the tributaries of the Saluda and Broad river on the one hand, and those of the Catawba and Yadkin on the other, a country already in a high state of cultivation, and possessed by a population who only desire the means of communication and commercial intercourse with the world, to bind them to their homesteads forever. Most of them have long resisted the flattering temptation of emmigration to the rich lands of the west, and enterprize and capital now properly invested will make their posterity, for generations to come, happy, contented and wealthy.

The question of route for the Charlotte road is much and keenly discussed in the South Carolina papers, Camden and Columbia both contending for the terminus.

The convention at Winnsboro prefer the claims of the latter town, and remark what is worthy of note.

> The country all the way is populous—the lands are fertile, well cultivated and productive. The staples are cotton and grains—bulky and difficult for wagon trans-

portation, when the roads are bad, and it so happens that these are of the very worst character, on the whole line which it is proposed to take this road over. There can be no doubt but the railroad on th's line, would take all the travel and trade of the country. To judge how much this would be with accuracy, is perhaps impossible; but we may find something to guide us, by looking at what has been the effect on travel over our railroad. It was supposed when the road was built from Charleston to Hamburg, that 10 passengers each way might pass daily, which would be over 3000 per annum: but this was found vastly below the reality—they rose rapidly in numbers to 1834, when they were 26,649; 1835, 34,283; 1836, they were 39,219; 1837, they were 41,554; in 1838, 44,487. They then fell off in the time of distress, as low as 29,279, but rose again, as the country recovered, until 1844, they were 54,146; in 1845, they were 56,785; in 1846, 64,136, and so far in 1847, the four first months, show 35,633, against 28,406 for the corresponding four first months of 1846.

The report of Peter Conrey, Jr., President of the New Orleans and Mexican Gulf Railway has been kindly furnished us by our enterprising fellow-citizen, Alexander Gordon, Esq., who is about to proceed to Europe on the business of the Company.

The following passage from the report will be read with interest:

The Directors, fully impressed with the important benefits which would result from the extension of the road to the vicinity of the splendid and secure harbor near Cat Island, and seeing how perfectly this harbor is adapted for the reception of ocean steamers of the first class, and how immense the advantages which would result, not to New Orleans only, but to the whole valley of the Mississippi, if direct mail and passenger communication be opened from Europe with said harbor, several months ago despatched to England, Mr. Germain Musson, Comptroller of the Company, and a member of the Board, with the double object of inducing the British Government and the West India Steam Packet Company to cause the monthly steamers, passing through the Gulf on their way to and from the Mexican ports, to call and land and receive mails and passengers in going and returning, and to raise the needful funds by a sale of bonds or stock to extend the road to Nine Mile Bayou, near Cat Island. The Directors have great pleasure in stating that, through the indefatigable exertions of Mr. Musson, there is every reason to hope that both the great objects of his mission may be very soon and happily accomplished, for the West India Steam Packet Company now give their fullest aid and support to the proposed change, and have officially offered to the British Admiralty, if permitted to call at Cat Island Harbor, to re-model their route so as to deliver the outward mails at Bermuda, Nassau and Havana, in a greatly shorter time than heretofore, and to place our letters in this city in 28 days or less—while the most eminent merchants of London and Liverpool, connected with the trade to the West Indies, to this country and to Mexico, and standing at the very head of the commerce of the world, both in wealth and intelligence, have, by public memorial to the British Government, expressed their most earnest desire that the proposed change should be made, as being one of the greatest importance, and likely most materially to affect and improve the commercial intercourse between Europe and the whole South-west of the United States.

From these circumstances the Directors are induced to hope for the most favorable issue to Mr. Musson's mission; and it is gratifying to the Board, and must be so to the Stockholders, to find the plans which have emanated from this Company are supported and urged forward, after the most careful scrutiny and examination, by the most eminent merchants of Europe.

The road has now reached within three miles of the shore of Lake Borgne, 25 miles. The remainder is in progress of rapid completion. From Lake Borgne, at Proctor's Shell Bank, it is designed to extend the road 14 miles further, to the shore of the lake near Malheureaux Island, where a safe harbor can be secured, 18 miles from Pass Christian and 125 miles from Mobile.

For the following particulars, we are indebted to the Company's Circular:

"The road after leaving the city passes through four or five miles of rich and fertile land, where country houses, pleasure and market gardens, brick yards, saw mills, &c., already begin to yield a revenue to the road which is continually increasing. At six miles from the city it enters the first sugar plantation, and from thence it passes through one continuous line of flourishing sugar estates, twenty or upwards in number, to the Proctor plantation on Lake Borgne, except where it passes through two villages in Terre aux Bœufs. The road follows the course of the Mississippi for the first twelve miles and approaches close to the river at Mr. Ducros' plantation. At this point the road receives and deposits all travellers to and from the rich and extensive parish of Plaquemines, on the left bank of the river.

The road here leaves the river, and takes a direct course for Lake Borgne, through the fertile country and sugar plantations already mentioned. The transports of the supplies and crops of these plantations will form no inconsiderable source of revenue. The road will first reach Lake Borgne at or near Proctor's Shell Bank, a beautiful spot extending nearly a mile along the lake shore, elevated from six to ten or twelve feet above its water, and covered with a fine growth of Live Oak trees. An agreement has been entered into with the proprietors of this estate for the improvement (for their benefit jointly and equally with the proprietors of the railroad) of this place so as to render it a convenient site for summer residences, and bathing establishments, etc., and the general government has, through the land office, directed a reserve of three miles of the lake shore adjoining, and extending one mile in depth, for the use of the railroad.

Lake Borgne is a most beautiful piece of water, affording delightful bathing, the water quite transparent, it being in fact an arm of the sea, although entirely sheltered from its violence. It is to be expected that when an hour and a half of railroad travel through a rich and cultivated country will place the citizens of New Orleans on its shores, thousands will be disposed to avail themselves of this cheap luxury, during our long summers, when the pressure of business is removed. Lake Borgne abounds with the finest sea and lake fish and oysters, and it is from thence that the city draws a large portion of its supplies. The road also passes near Lake Lery, famous for its abundace of fish, game and oysters. The transport of these articles alone will afford a handsome revenue to the road."

In relation to the ship harbor, it may be well to remark that Professor Bache of the U. S. Coast Survey is now on the Gulf of Mexico, where all the necessary soundings and surveys will be made and charts presented, exhibiting in the most satisfactory manner the capacities for commerce which may exist. We have had the honor of an interview with Prof. Bache, and have received his reports and charts so far as they have been published, which, at an early day, will receive an elaborate notice at our hands.

The Company's Circular concludes:

"The proprietors have purposedly avoided entering on the advantages which may result to this road from the establishment of a great sea port in the neighborhood of Cat Island, where it is well known that there is depth of water sufficient for line of battle ships; but it is perfectly true that the proposed terminus of the road will not be more than ten or twelve miles from this magnificent and secure harbor, and as the improvements in the construction of locomotive engines are already so great that, for six or seven thousand dollars, an engine can be constructed of sufficient power to propel a thousand tons of merchandize at the rate of ten or twelve miles per hour, it is impossible to foresee what may be the movement of freight as well as passengers in the course of a very few years."

The report of Col. James Gadsden, President of the South Carolina Railroad Company, at their meeting of the present year, thus refers to the different movements now in progress in South Carolina:

"The Report of the Engineer, Mr. McRae, of the Camden Branch, shows the present condition and progress of that work, notwithstanding a suspension of operations the last spring for nearly two months, with a hope that the citizens of Sumter might be accommodated by a change of route in the road proposed; and the subsequent summer and winter interpositions of successive floods in the Wateree river, the work has been steadily progressing, and a hope is still encouraged that with the powerful aid of steam, and energetic contractors, the passage of the Wateree River and Swamp may yet be accomplished in time to enable the Company to press forward, with all practicable dispatch, during the summer and fall months, with the superstructure to Camden. A large portion of the grading along the entire line, is already completed; the whole is under contract; the wooden superstructure with the Rails, between the Congaree and Wateree are now in progress. Iron sufficient for the completion of that section has arrived, and if the floods of the Wateree do not interpose any further obstacles, than those which have already been encountered, the Engineers feel confident that all the objects, as to time, in completing the road will yet be realized. But the best devised plans, and the most powerful of human efforts have, at times, to yield to elements which are not to be controlled, and often too powerful, successfully to resist.

Your Board of Directors, with much satisfaction, congratulate the

Stockholders on the beneficial results of that liberal policy, early adopted on their part, of extending countenance and credit to all sister roads, having for common objects the bringing the western portions of our Union in more intimate, social and commercial relations with those of the South. The roads in Georgia and Alabama are rapidly and successfully progressing—many of them finished—new roads, penetrating more remote and hitherto inaccessible sections in those and the adjacent States of Mississippi and Tennessee, projected; and Companies in progress of organization for immediate and successful action. The road from Chatanooga to Nashville is no longer a problem, and we have every assurance of the most energetic efforts to commence, and push it rapidly to completion. The Hiwassee railroad, opening a communication to Knoxville and the interior of Eastern Tennessee, has been revived, and will receive a new impulse on the completion of the Western and Atlantic to Cross Plains, now only awaiting the daily expected arrival of the iron to finish it. The interior of Alabama is looking with deep interest to a railroad communication between the Georgia and Tuscaloosa, by the Rome Branch and Valley of the Coosa. Superadded to these, charters have been granted by both of the legislatures of North and South Carolina, and our people everywhere awakening to the importance of rendering more intimate and binding by railroads, the city of Charleston with the interior districts of our own and more Northern sister."

Mr. Thompson, Surveyor of the NASHVILLE AND CHATANOOGA RAILROAD, reports to the Commissioners of that enterprise under date of February, 1847. The whole length of the road from the termination of the Georgia works to the city of Nashville will be 152 miles, and approximate cost $2,810,000.

That there will be a connection, Mr. Thompson remarks, between the south Atlantic coast and the great West at an early period, no one acquainted with the extent and importance of the interests to be beneficially affected by it can for a moment doubt—and that the route of your road is the most advantageous for such a communication is equally clear. Through the Cumberland it brings the mouth of the Ohio—the heart of the west—more than 700 miles nearer to the Atlantic than by any of the present avenues of commerce, an advantage which must claim for the line, a large share of the travel and transportation of the products and consumption of the Mississippi valley. It would seem unnecessary, however, to go beyond the country which now makes Nashville its market, to find ample business to justify the construction of this railroad—opening as it does to Middle Tennessee, a direct route to consumers of her present products, distributing them through Alabama, Goorgia, Florida and Carolina, by means of the net work of railroads diverging from Atalanta, the Atlantic end of the Georgia State railroad—leaving out of view the foreign market for Indian corn, her great staple, which will find at Charleston and Savannah a cheap and ready transit to Europe.

Art. XIV.—ORIGIN OF THE AMERICAN INDIANS.*

"The only certain means by which nations can indulge their curiosity in researches concerning their remote origin, is to consider the language, manners, and customs of their ancestors, and to compare them with those of the neighboring nations."—1 *Hume's Hist. of Eng.*, p. 1.

I have looked into a few histories and other works, with a view to the collection of data upon which I might feel myself justified in presuming to attempt a theory upon the origin of the Indians.

Who are the Indians? Of what race descended? Were their ancestors indigenous or immigrants? And if immigrants, how did they get here? are questions which have been often propounded, but never, so far as I know, satisfactorily answered. Nor shall I undertake to answer them. From the mere imputation that I thought myself capable of such a task in view of all the difficulties which surround it, my mind would shrink overwhelmed with confusion. But living in this happy country, where every man, however humble, has a right to give an expression to his opinions,† I have concluded to place before the public my crude and hasty reflections on this perplexing subject. Avowing, in advance, that I attach but little importance to them myself, and only publish them with the hope that they may prove not altogether uninteresting as speculations, however unsatisfactory as a theory.

In the first place I believe that the fore-fathers of the Indians were not indigenious, because the admission that they were would militate with the biblical genealogy. Our religion teaches us that the first parents of the whole human race were placed by the hands of the Almighty on the banks of the Euphrates, and that thence their descendants scattered to the surrounding countries. That after several generations, owing to their abominable wickedness, all but one family were destroyed, who landed from the ark in the same region where the first parents existed. My faith in this account, supported as I believe it to be, by all history, moral, physical and political, is firm and indestructible. I will assume, therefore, as a postulate, that the ancestors of our Indians were emigrants. Then of what race were they, and how did they arrive here?

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* *To the Editor:*—The preceding article was in the first instance designed as an appendix to a biographical sketch of the late Gen. Samuel Dale, a partisan officer whose deeds of romantic valor are well remembered on the frontiers of Georgia and Alabama. It is from the pen of Franklin Smith, Esq., an eloquent member of the Mississippi bar, and more recently an officer of the U. S. Army, serving in Mexico. He entrusted his MS. to me, and I had incorporated it with a more elaborate work, to be published as our joint production, but these papers were all lost by an unavoidable casualty. Captain Smith, more fortunate than myself, has preserved the original copy of his sketches, and I propose to furnish him with all the documents of value that remain in my hands. He will employ the few leisure hours that his professional engagements allow to re-produce the work in a form more extensive than heretofore contemplated. He is a finished scholar, an ingenious and philosophical thinker, a bold and vigorous writer, and as his materials are new, abundant and authentic, the public may anticipate a work of great interest, illustrative of border life, and of that terrible frontier warfare which for so many years harrassed and desolated the infant settlements of the southwest.

Most respectfully,
Your obedient servant,
J. F. H. C.

† Rara temporum felicitate, ubi sentire quæ velis, et quæ sentis dicere licet. Tacit.

I believe that the probabilities on the subject of their origin, for they are but probabilities, may be reduced to three propositions:

First. That the Indians are descended of the ancient German tribes.

Second. That they are the descendants of the ten lost tribes of Israel, or some of them, carried into captivity by the king of Assyria, about six hundred years before Christ, and never returned.

Third. That they are the descendants of some of the Nomadic tribes scattered over ancient Scythia, now Siberia, and the eastern part of Russia, in Europe.

Pursuing the plan recommended by Hume, so far as to contrast the manners and customs of nations with those of the Indians whose origin we seek, I present the following syllabus* of the manners and customs of the German tribes, and will then proceed to give a similar one as to the other nations mentioned in the second and third propositions.

THE ANCIENT GERMANS.

1. Preceding their battles, they sung war songs in honor of their heroes, accompanied by fierce vociferations and gestures. Tacit., sect. 2, 3.

2. To make feints, to retreat and return, and to attack their foes from woods, marshes, and secret places, was their manner of fighting. Tacit. 6. Cæs. Lib. 6–34.

3. They always bore their slain from the field, even in the most desperate battles. Tacit. 6.

4. They had no temples, no sacrifices. Tacit. 9. Cæs. 21.

5. They were governed by chiefs who ruled not by coercion, but by example; by taking the post of danger and exciting the admiration of their tribe. Tacit. 7–14. Cæs. 23.

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* The references under this syllabus are Cæsar, De Bell, Gall, and Tacitus De Situ. Mor., &c., Germ. I had made my syllabus from the authorities referred to, when I accidentally discovered that I had been partially anticipated by Dr. Robertson in a note to his "History of the Emperor, Charles V." The reader will find the note p. 504, being note 6, to text p. 12. And that I may not claim any thing which might not be accorded by all, he will please credit Dr. Robertson with so much as he finds there corresponding to what he finds here.

6. Their councils were composed of the chiefs, and held and conducted precisely as those of the Indians. Tacit. 11. Cæs. 23.

7. They always went armed. Tacit. 13.

8. They paid no attention to agriculture, their life being passed in war and hunting, and when not so engaged they gave themselves up to sleep and laziness.* Tacit. 14, 15, 31. Cæs. 21, 22, 29.

9. They raised nothing but corn, and this was cultivated entirely by the women; the latter performing also all the drudgery. Tacit. 15, 26.

10. Their houses were miserable huts of the rudest materials and construction. Tacit. 16.

11. The clothing of men and women left a great part of the body naked. Tacit. 17. Cæs. 21.

12. Exchange of presents constituted the marriage vow. Tacit. 18.

13. They delighted in gifts, but neither took to themselves credit for what they gave, nor felt themselves under obligations for what they received. Tacit. 21.

14. Their children ran about their huts dirty and naked, but they were otherwise treated by their parents with the utmost tenderness and affection. Tacit. 20.

15. Their food was milk, wild fruit and the flesh of wild beasts. Tacit. 23. Cæs. 22.

16. They had a great passion for gaming, betting every thing they possessed, and somtimes even their liberty. Tacit. 24.

17. They were temperate in eating, but passionately fond of any intoxicating drink.† Tacit. 23.

18. They had no certain land-marks or boundaries to their fields and occupancy was their only title. Cæs. 22.

19. The tribe (Suiones) inhabiting the borders of the North Sea, built their boats and navigated them as the Indians do.‡ Tacit. 44.

20. The Fenni, (Finlanders,) the most northern tribe described by Tacitus, used bows and arrows as their only weapons, the arrows being pointed with bone. In fact, the whole description given of them by the historian is remarkable, when considered in reference to the condition of many of the modern tribes of Indians.§ Tacit. 46.

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* Mira diversitate naturæ, cum iidem homines sic ament inertiam, et oderint quietem. Tacit.

† Haud minus facile vitus, quam armis vincentur. Tacit.

‡ "Forma navium eo differt, quod utrimque prora paratam semper appulsui frontem agit: nec velis ministrantur, nec remos inordinem lateribus adjungunt." Tacit.

§ Let the reader examine the graphic description from "Fennis mira feritas," to the conclusion.

MANNERS AND CUSTOMS OF THE JEWS.

1. They had a feast when their corn ripened, called "The Feast of the First Fruits," during which there was rejoicing and a cessation of all work. Levit. chap. 23, verse. 9 to 15. Numbers ch. 28, v. 26. Exod. ch. 23, v. 15, 16.

2. They frequently destroyed men, women and children in their wars. They were cruel in their punishments and deadly in their revenge. Joshua, ch. 10, v. 20 to 40. Judges, ch. 21, v. 10. Second Samuel, ch. 12, v. 31. 1 Kings, ch. 11, v. 15, 16. Ibid. ch. 16, v. 11. Judges, ch. 4, v. 21. 1 Kings, ch. 2, v. 6.

3. By divine institution they were never to mingle with other people. Deuteron., ch. 7, v. 1 to 7.

4. Their God was an Invisible Spirit.

5. The murderer was destroyed by the nearest relation of the deceased. Josh., ch. 20, v. 6. Second Samuel, ch. 14, v. 6, 7, 11.

6. Inferior offences were punished with stripes. Deuteron., ch. 25.

7. Wizards and witches were put to death. Levit., ch. 20, v. 27. Second Kings, ch. 23, v. 24. 1 Saml., ch. 28, v. 9.

8. Polygamy was allowed and practised. The Old Testament Passim.

9. They had no formal marriage ceremony. Consensus et concubitus fecerunt nuptias. Gen., ch. 24, v. 67. Ibid., ch. 29, et passim.

10. They divorced their wives at pleasure. Deuteron., ch. 24. Matthew, ch. 19, v. 7, 8.

11. They did not disfigure themselves or cut off their hair at the death of relations. Deuteron., ch. 14, v. 1, 2.

12. They had a jubilee or grand celebration, (Levit., ch. 25,) at which all offences were forgiven, except murder; all debtors released, and all servants set free *except slaves, the children of heathens.* Numb. ch. 35, v. 31, 33. Levit., ch. 25, v. 44, 45, 46.

13. They had prophets in every village, who were always consulted before any step of importance was taken, and who undertook to foretell the event. 2 Kings, ch. 4, v. 38. 2 Chron. ch. 18 v. 1 to 9, and 21, 22. Matt. ch. 7, v. 15.

14. They called their chief father. 1 Kings, ch. 24, v. 11.

15. They supported their priests and exempted them from contributions for the common good. Numb. ch. 18, v. 24. Ezra, chap. 7, v. 24.

MANNERS AND CUSTOMS OF THE SCYTHIAN TRIBES.

1. They supported themselves, some by their herds, others by the chase. Herodotus. Melpomene, sect. 2, 22, 46.*

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* Here I will remark that before travel was carried to the extent which it is at pre-

2. Bows and arrows were their weapons of war. Ib. 9, 10, 22, 46.

3. They had no fortified towns. They lived in moveable huts or tents; could advance or retreat at pleasure, and attacked their foes from places of concealment. Ib. 46, 127.

4. They paid no attention whatever to agriculture. Ib. Id.

5. *They scalped those they killed, precisely as the Indians do,* preserved the scalps as trophies of their prowess, and he who obtained the most received the highest honors. Ib. 64.

6. They had among them prophets or diviners. Ib. 67.

7. All the Scythian tribes had great repugnance to foreign manners. Each one of them adhered to the customs of their forefathers. Ib. 76.

I do not believe that the Indians are the descendants of the Germans. In the first place, the Germans have ever been noted for blue eyes, fair skin, or red and light hair.* Secondly, they had no knowledge of the mariners compass or of navigation, nor had they the remotest idea of there being land to the west of them. It is evident, therefore, that in their small open boats they would not have voluntarily attempted to emigrate by water, to traverse seas lashed by perpetual storms. Admitting that there were instances of their being driven out to sea by the sudden rising of an easterly wind, yet we may suppose that they were not provisioned for so long a voyage, and accordingly soon perished from famine, or that they were swallowed up by the ocean; or, that as soon as the wind was sufficiently lulled to admit of making headway against it, steering towards the rising sun, they made for their country with all possible despatch. In the next place, the hypothesis that they emigrated by land, crossing at Beering's Straits, will not bear, I think, the test of reason or experience. To have done so they would have had to traverse two thirds of that part of the globe. And what possible circumstances can we imagine which could have induced a free, brave, and hardy people, whose lives were dedicated to war, to travel in a straight line two-thirds of the globe? To climb rugged mountains, and pass the broadest rivers, saluted at every step they took by a ste-

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sent, it was the fashion to pronounce the statements of Herodotus as fabulous and unfounded. But as some majestic column of ancient architecture, which after a long repose in dust and neglect, being replaced upon its former pedestal by the pious hands of some admirer of genius, again challenges the admiration of the artist and the wonder of the world, so the authority of Herodotus, rescued at length from the rubbish of ridicule, stands vindicated by the more extended observation and experience of modern travellers, and his name has been restored to the proud niche which it originally occupied in the temple of fame, the "Father of History."

* Tacit. 4.

rile soil, by ice and snow, and those forbidding features of nature thickening in gloom and terror the further they progressed? On the other hand, are we not justified in pronouncing as morally demonstrable, that those warlike Germans would have never turned their faces towards the inhospitable north-east, but that in their emigrations they would have done as their descendants have ever done since, taken up their march towards the more inviting plains of the sunny south?

Judging from natural causes only, we might readily embrace the third proposition, and conclude that the first emigrants to America were of some of those Nomade tribes, which roved over the vast plains of northern Asia. Independent of the similarity of manners between these tribes and the descendants of those emigrants as we now find them, we can well imagine that a body of water* only thirty-nine miles wide, frozen over for a greater part of the year, would not be likely for any considerable period of time, to prove a barrier to the enterprise of men whose lives were devoted to war and hunting. Men who, having no fixed habitations or ties to attach them to a particular district, wandered up and down the earth as led by the chase or the hope of plunder. There are many circumstances under which the mind can conceive, that such a people, inhabiting contiguous regions, would have crossed that narrow frith. A vanquished party, pursued by superior force. Outcasts, exiles, or criminals, seeking to hide their disgrace in a remote country, or to avoid the vengeance of their enemies. Wild beasts escaping from one shore to the other, and drawing after them the ambitious or the hungry huntsman. These, together with many other causes for the migration of some of those people from the Asiatic to the American continent, will at once occur to the reflecting reader. But holding as I do the doctrine of Rollin, "that the providence of the Almighty has, from all eternity, *appointed the establishment*, duration and destruction of kingdoms and empires,"† and drawing my conclusions as well from a comparison of customs as from considerations which I deem of more weight and moment, I am induced to believe that it is most probable that the Indians are the descendants of the lost tribes of Israel.

The institutions and manners of the Indians which correspond with those of the Jews, are such as would be most likely to survive the loss of their men of learning, and to triumph over their degeneracy and barbarism, over distance and time. Their belief in the unity of God, and that he is a spirit, "the Giver of breath"[*] would live in the minds of a people however rude, after their ceremonies of worship should have been lost amidst war, blood, indigence and ignorance. It is natural that they should have their jubilee annually, instead of every fiftieth year, as barbarians, like children, are always anxious for the speedy recurrence of times of mirth and rejoicing. Their solemn pause and motion of reverence towards the place of their tribe, when absent, may be a remnant of the Jewish custom to bow towards their Holy City, when making their supplications to God.[†] In fine, all the ceremonies and customs which they retain resembling those of the Jews,[‡] it will be found were such as could not be otherwise than perpetuated from their frequent use and recurrence, while such as they do not retain, are such as a people relapsing into utter barbarism would necessarily lose. There is strong evidence to show that the Indians have no faith in the immortality of the soul. This might be expected of them, supposing them to be descendants of the Jews, since one-half of the latter people did not believe in that doctrine, and the other half had a very confused idea about it.[§]

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* Beering's Straits.

† 1 Rollin, 14.

It is well known that the Israelites were God's chosen people; tha He exacted obedience of them corresponding to his mercies, and denounced against them by his prophets the most dreadful punishments if they forsook his statutes and commandments; that all the tribes were carried into captivity by kings of Assyria—the ten tribes which revolted under Jereboam first, and the tribes of Judah and Benjamin soon after: that at the restoration under Cyrus, the latter tribes were the only ones which returned to Jerusalem;[||] that these had already forgotten many of their laws and had to a considerable extent taken wives of the nations among which they had sojourned.[¶] I learn from the able notes to the "New Family Bible," (published by the Protestant Episcopal Church) that the ten revolted tribes (which remained in captivity) were colo nized in the mountainous parts of Media,* the north-east part of modern Persia. The next country to the East was what is now called Affghanistan. I learn from an authentic account of the Affghans that they have a tradition that they were descended of the Jews; and whoever will take the trouble to refer to the authority, will be astonished at the correspondence beween their laws, manners, and customs and those of the ancient Jews and the modern American Indians.†

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[*] Genesis, chap. 2, v. 7.

[†] 2 Chron. ch. 6. v. 21. 26.

[‡] Many of the Jewish customs resembling those of the Indians, (but which I did not embrace in my syllabus because it would nave made it too prolix, and would have been giving details familiar to every one,) will be remembered by the reader, such as their music, their fondness for bracelets and ear-rings, their rejoicing over the death of enemies, war songs, dances, etc., etc.

[§] Matthew, chap. 22, v. 23. Buck's Dictionary, Titles "Sadducee," "Future State." etc.

[||] Ezra chap. 1, Comm. to the "New Family Bible," 2 Kings, chap. xvii. v. 7.

[¶] Nehemiah chap. viii. v. 14. Ibid. chap. xiii. Ezra chap. x.

It strikes me that some of the lost tribes following the chain of mountains which skirt western Persia and the north of Affghanistan, first wandered into the latter country. That there mixing their blood with some of the swart Asiatic tribes,‡ they were then driven by war or their dissatisfied disposition—pushed on rather by the providence of God than the act of man, towards the north-eastern regions of Asia. and that from a succession of like causes they finally became inhabitants of America. I would suppose this wonderful migration to have been consumated from five hundred to a thousand years before the discovery of America.§ It would not have taken many hundreds of families to have populated this continent within that period as densely as it was found to be at the time of its discovery.‖

Let no one say that this wonderful emigration could not have occurred without there having been some memorial of it preserved by poets or historians. From the death of our Saviour in the reign of Tiberius Cæsar, up to about the close of the fifteenth century, rivers of blood overflowed the earth, and chaos and night seemed to have resumed their sceptre over the world. It was not until about the last above-mentioned period, when the use of the mariner's compass, the extension of commerce, the discovery of America, the establishment of the press and reformation in religion, gave suffering humanity room to hope for something better than chains aud slavery, blood and murder—that the human mind was capable of making a faithful record of anything beyond the immediate sphere of its action. Learning "slumbering in the urns" of classic literature, or locked up in monkish cloisters—her votaries overawed by power or paralized by superstition were incompetent to the task of a faithful delineation of even the great events in Europe, much less to describe the intermingling and the flow of national existencies in Asia.

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* Notes to 2 Kings, chapters xv. xvi. xvii., and see Account of Affghanistan, 298.

† "Account of Affghanistan," affixed to the History of Persia, by James B. Frazer, Harper's Edition, pp. 298 to 314.

‡ It can readily be conceived that a race of people like the Jews, having black hair and black eyes, could in the course of a few generations be changed to the complexion and appearance of the Indians. Any traveller may see in New Orleans and Charleston, persons of mixed races, whom he would take for Indians, but who have no Indian blood in their veins. It is believed that some of the descendants of Ham first settled in Persia.—Smiley's Scripture Geography, p. 23.

§ Perhaps at the close of the twelfth century in the days of Genghis Khan, or the close of the sixth century in the days of Mahomet.

‖ They were probably preceded by Cimmerians (or some other giant race) who having built the structures and edifices which so much puzzle antiquarians, destroyed each other in war, or were partially destroyed by earthquakes and famine, leaving the remnants of their race in Patigonia.—Herodotus, Melpom. 11, 12.

Unless the hand of God be in it, how is it, I would ask, that the Indians are the only conquered people known to history, whom neither the persuasions of religion; the example of an improved condition around them; the terrors of superior power, nor the certainty of national extinction, can induce to lose their distinctive character and to blend their identity with that of their conquerors? Experience teaches us that were they to change their habits, appropriate to themselves the earth and become agriculturalists, the whites would speedily intermarry with them, and thus they would become a new, a civilized and happy race. But no! they are the same stiff-necked and peculiar people who together with the tribes of Judah and Benjamin, rejected the mercies of the theocracy and scorned the ordinances of Heaven. Like them they are doomed to wanderings, to persecution, and ruin. When under the protection of the victorious eagles of the Republic, the tide of civilization shall have rolled to the Pacific, it may be that the remnants of these people, returning to Asia by the route they came, are to be restored as is the promise* to the seats of their former glory, and be permitted with the rest of their brethren to occupy the land of their Fathers.

These things may or may not be. Who shall undertake with oracular authority to pronounce upon them with certainty? With nothing but conjecture to guide us, without a line of history, a single monument, inscription, memorial, or tradition to direct our steps, who shall come with boldness to this great argument? But I have too long trodden upon holy ground. It is not for a man like me to take his stand by the pathway of God's providences, and say, here passed the Persian or the Mead, here the Greek or Barbarian, here the Jew or Gentile, lashed onward to exile or destruction by Omnipotent displeasure.

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* Ezek., chap. 36; Isaiah, chap. 65; Hosea, chap. 3.

"Let not this weak, unknowing hand
Presume Thy bolts to throw,
And deal damnation round the land
On each I judge Thy foe."

The mysteries of this part of the subject were better committed to the hands of those able and learned divines who have devoted their lives to the unravelling of the prophecies and the study of the will of God as declared in his holy Word. Even with their aid, however, I despair of ever seeing them expounded. Like the ten thousand arcana of our moral and physical world, which perplex us on every hand from the humblest blade of grass beneath our feet to the spangled heavens above us, they will remain a sealed book until that perfect day breaks upon our vision when we are to see God face to face, and all the secrets of time and eternity are to be laid open to our view, that the empire of perfect gratitude and reverence may be established, and the boundaries of love and happiness indefinitely extended.

But it needs no prophetic ken, however, or inspired vision to forsee that soon the Indians will disappear from every portion of our country—that soon the beautiful lines of our best poet will be but a true and faithful picture of the whole American continent:

"Erewhile where yon gay spires their brightness rear
Trees waved, and the brown hunter's shouts were loud
Amid the forest; and the bounding deer
Fled at the glancing plume, and the gaunt wolf yelled near.
Look now abroad—another race has filled
These populous borders—wide the wood recedes
And towns shoot up, and fertile realms are tilled;
The land is full of harvests and green meads, etc."

BRYANT.

But who can bid farewell to the Indians without dropping a tear to their memory! In their dark forests deeds have been done such as have rendered the names of Hannibal and Cæsar immortal. But they had no bard to sing them, they had no hisotrian to record them! The ashes of thousands of dead heroes sleep on our plains undistinguished from their kindred dust. Their names perished with the grassy couch upon which they bled! And yet there are some Indian names which the literature of the white man will perpetuate to the latest posterity. As long as magnanimity, boldness of design, eloquence in the council and bravery in the field shall secure the admiration of men, the names of Powhatan, Pontiac, King Phillip, Logan, Red Jacket, and Tecumseh will never be forgotten!

Art. IV.—AMERICAN TOBACCO TRADE.

The reader will find the statistics of this branch of our industry elaborately compiled and presented in the number of *Commercial Review* for October and July, 1846, together with many interesting and important particulars in relation to its cultivation, trade, consumption, etc.

The able speech delivered during the last Congress in the House of Representatives by Mr. Chapman, of Maryland, affords some additional light, which we gladly introduce into our work. Beyond his facts and statistics, however, we are unwilling to follow him, as there are doctrines and opinions in the speech touching upon the systems of protection, discrimination, countervailing duties, etc., all of a highly political and party character.

Tobacco was one of the earliest American exports, and the chief one before the introduction of cotton. Its statistics until lately, have not been very accurate. The few principal tobacco-growing States, Virginia, Kentucky, Tennessee, Maryland, and North Carolina, from 1820 to 1840, produced about 117,000 hhds. a year. The product of 1840 reached 175,126 hhds., or 219,163,319 lbs., of which 147,973 hhds., or 177,351,600 lbs., were exported. The crop of 1842 was 194.694,891 lbs. Its bulk is produced west of the mountains, and finds a market at New Orleans. It is the second agricultural interest of the country.

Exports of the United States 1844–5.

Fisheries,		$4,507,124
Forests, peltry, ashes, etc.,		6,550,421
Wheat and Flour,		5,735,372
Rice,		2,160,456
Cotton,		51,739,643
Cotton, manufactured,		4,372,928
Other,		6,307,721
Tobacco Leaf,	$7,469,819	
Tobacco, manufactured,	538,438	—8,008,317

Exports of Hogsheads of Leaf Tobacco from the United States.

Years.	England.	France.	Hanse Towns.	Holland.	Italy.	Other places.	Total.
1836	36,822	7,853	22,246	19,148	618	22,775	109,442
1837	20,733	9,110	28,863	22,739	239	18,558	100,232
1838	24,312	15,511	25,571	17,558	1,452	19,189	100,593
1839	30,068	9,574	14,303	12,273	897	11,980	78,995
1840	26,255	15,640	25,649	29,534	2,631	19,775	119,484
1841	41,681	17,586	36,517	26,203	1,222	24,619	147,828
1842	36,086	15,938	42,614	36,079	1,841	26,152	158,710
1843	21,029	11,406	24,504	19,519	865	17,227	93,454
1844	38,584	21,748	40,604	28,814	1,459	31,835	163,042
1845	36,111	18,271	46,560	29,027	5,133	22,166	147,168

EXPORTS OF POUNDS OF MANUFACTURED TOBACCO FROM THE UNITED STATES.

Years.	Hanse Towns.	Holland.	Engl'd. & Colonies.	Brit. Am. Colonies.	France.	Other places.	TOTAL.
1833	136,846	169,682	710,660	1,259,856	628	1,512,758	3,790,310
1834	76,794	17,394	671,923	1,576,648	60,000	1,553,820	3,956,579
1835	238,795	——	755,853	1,342,924	21,654	1,458,628	3,817,854
1836	11,459	——	217,099	1,196,082	1,650	1,820,387	3,256,675
1837	77,818	——	828,525	1,262,340	18,571	1,428,337	3,615,591
1838	280,123	34,603	1,694,571	1,608,908	51,388	1,338,554	5,008,047
1839	276,801	136,973	1,454,996	1,266,716	——	545,352	4,214,943
1840	526,236	43,467	2,497,664	1,831,536	7,550	1,880,713	6,787,165
1841	257,124	31,364	2,825,737	1,769,935	59,982	2,559,602	7,503,644
1842	234,449	89,784	1,144,539	1,442,337	137,480	1,385,632	4,434,214
1843	48,248	55,714	990,083	1,047,718	107,832	1,154,657	3,404,252
1844	362,042	30,245	1,634,055	2,026,884	33,463	1,960,189	6,046,878
1845	143,064	40,349	1,741,699	1,857,872	55,992	1,475,977	5,312,971

COUNTRIES IMPORTING AMERICAN TOBACCO.

TOBACCO—Whither Exported—1845.	Quantity. Hhds.	Value. Dollars.
Russia,	13	733
Prussia,	..	...
Sweden and Norway..	1,686	60,412
Swedish West Indies,.	18	1,005
Denmark,	252	13,552
Danish West Indies,..	201	9,582
Hanse Towns,	46,460	1,916,311
Holland,	29,027	1,182,670
Dutch East Indies,....	......	....
Dutch West Indies,...	153	6,829
Dutch Guiana,	3	102
Belgium,	2,448	99,662
England,	26,111	1,980,940
Scotland,	58	4,097
Ireland,	..	....
Gibraltar,	6,634	237,555
Malta,	194	6.464
British East Indies,...	4	331
Cape of Good Hope,...	.	...
Mauritius,	11	630
Australia,	..	...
Honduras,	24	1,824
British Guiana,	64	4,215
British West Indies,..	505	29,179
British Amer. Colony,..	483	27,755
France on the Atlantic,	11,313	694,369
France on the Mediter..	6,958	365,706
French West Indies,..	978	41,608
French Guiana,	44	3,658
French African ports,..	..	.....
Bourbon,	20	1,272
Spain on the Atlantic,..	3,892	198,956
Spain on the Mediter'n.	....	......
Teneriffe and other Canaries,	....	......

TOBACCO—Whither Exported—1845.	Quantity. Hhds.	Value. Dollars.
Manilla and Philipine Islands,	..	....
Cuba,	44	2,322
Other Span. W. Indies,	75	4,615
Portugal,	..	....
Madeira	..	....
Fayal and other Azores,	..	....
Cape De Verd Islands,.	29	1,589
Italy,	5,133	299,308
Sicily,	76	3,759
Sardinia,	306	14,868
Trieste and other Austrian ports,	1,090	78,892
Turkey, Levant, etc.,..	52	2,463
Hayti,	363	22,365
Texas,	270	8,049
Mexico,	11	698
Central Repub. Amer..	19	1,255
New Granada,	..	....
Venezuela,	87	5,715
Brazil,	110	7,936
Cisplantine Republic,..	58	3,616
Argentine Republic,...	57	3,400
Chili,	122	7,366
Peru,	...	....
China,	80	5,845
West Indies generally,	20	1,143
S. America generally,..	10	546
Europe generally,	..	...
Asia generally,	..	...
Africa generally,	1,604	104,659
S. Seas & Pacific Ocean	....	......
	147,168	7,469,819

IMPORT DUTIES ON TOBACCO.

	Manufactured.	*Unmanufactured.*	*Cigars.*
Great Britain,	$2 16 per lb.	72 cents per lb.	$2 16 per lb.
France,	Prohibited.	Prohibited.	Prohibited.
Spain,	Prohibited.	Prohibited.	Prohibited.
Portugal,	Monopoly.	Monopoly.	
Prussia,	$7 48 per cwt.	$3 74 per cwt.	$7 48 per cwt.
Russia,	30 cents per lb.	$3 76 per 36 lbs.	75 cts. per lb.
Austria, (Milan,)	$19 20 per 100 lbs.	$7 20 per 100 lbs.	$19 20, 100 lbs.
Netherlands,	$4 80 per 220 lbs.	28 cts. per 220 lbs. Va.; 32 cts., 220 lbs. various.	$4 80, 220 lbs.
Belgium,		47 cts per 225 lbs. Md.	$18 75, 225 lbs.
Hanseatic Towns,			
Denmark,	$3 12 and $4 16 per 110 lbs.	$1 04, 110 lbs. in leaves and stems.	10 cts. per lb.
Sweden,	4 to 64 cts. per lb.	12 cts. per lb.	$1 per 100 lbs.
Sardinia,	Prohibited.	Monopoly.	Prohibited.
The Two Sicilies,	$46 48 per 100 lbs.	Monopoly.	Monopoly.

TOBACCO STATISTICS.

Countries to which it was exported from 1835 *to* 1838.	*Average Value.*	*Duty per hundred pounds.*	*Av. 1st cost in the U. S per* 100 *lbs*
Russia,	$10,712	Leaf with its stems, and stems, $10 66. Leaves without stems, $21 32.	$4 93
Sweden and Norway,	141,999	In Norway, $3 29.	6 72
Denmark,	10,071	Leaves and stems, 42½ cts.	9 64
Holland,	955,835	Virginia, 13¼ cts.; Maryland, 14 1-11 cents.	4 02
Belgium,	185,107	Virginia, 23½ cts.; Maryland, 26 1-5 cents.	6 24
England,	2,870,433	$72 75.	8 76
Scotland,	171,454	$72 75.	13 15
Ireland,	68,283	$72 75.	14 11
Gibraltar,	379,610	Free port.	6 48
Malta,	15,938	Free port.	6 15
Spain, on Atlantic, etc.,	190,517	Monopoly.	9 19
France,	956,556	Monopoly.	7 36
Portugal,	6,360	Monopoly.	6 88
Italy,	86,021	Monopoly.	9 32
Sicily,	2,233	In Naples, monopoly.	5 82
Trieste, etc.,	20,697	Monopoly.	5 84
Prussia,	7,489	$3 31.	3 23
Hanse Towns,	1,188,479		3 87
Other countries,	480,978		
Total	7,748,772		6 25

Against these foreign restrictions upon our tobacco, Government has from the earliest times protested. Mr. Jefferson in 1785 remonstrated to the court of France on the subject, and succeeded in obtaining a relaxation which caused an immediate increase of imports. Gen. Jackson, Mr. Van Buren, Mr. Tyler have delegated special agents to Europe entrusted with the matter, and have co-operated with our ministers at all foreign courts, but to little purpose.

We give a passage from Mr. Chapman:—

"What would be the effect of the repeal of the monopolies by the governments of France, Austria, and Great Britain, and the reduction of the imposts and transit duties by the other European goverments upon our tobacco, to a standard approximating to the rate of duties which we levy upon their productions when imported into this country? It would, sir, increase the consumption fourfold; it would put this article, particularly Maryland and Ohio tobacco, which is chiefly consumed in smoking, within the reach of the greater part of their population. They are now excluded from the use of it by the enormous price which, by reason of the duties, it commands, and it is only used when mixed with the inferior product of their own country. An estimate was made by Mr. Dodge, an intelligent agent sent by this Government to different parts of Europe to examine into the state of the tobacco trade, by which he shows that 422,344 hogsheads would be exported to Europe and consumed there under a moderate rate of duties. His reasoning is plausible, and the conclusions may be correct; but if one-half the amount estimated by him be required, the price would be relatively enhanced, and the planter remunerated for his labor.

"But it would have another important effect; it would increase greatly the amount of exports of the country; would employ a greater amount of shipping; would have an important and beneficial influence upon foreign exchanges, and enable us to import foreign goods at a much cheaper rate. But it has been charged that the price which the planter receives does not depend upon the duty levied upon the article. It would be strange if it did not. The price is affected in a double aspect: first, the high duties must be paid upon that which is consumed which is not contraband. This lessens the amount consumed in every country because it makes a luxury too expensive to be within the reach of any except the opulent, and causes almost all who consume it to mix it with inferior tobacco grown upon the continent. Thus a smaller quantity being required than is imported, the imperative law of demand and supply applies to it, and so much more being produced than is required under the high government exactions for those who are able to consume it, the price must necessarily decline. And again, sir, under the present duties, for instance in England and Austria, the consumer has to pay so much to the government—the tax itself being from from six to fifteen times as much as it sells for here—there is nothing left for the planter.

The principle that the duty upon an article is paid by the consumer must be modified in its application to the high taxes on tobacco. Although paid by the consumer, it is, in some measure, the planter's loss; for the tax paid is by withholding from him a fair price for his commodity. The duty of seventy-two cents in England a pound, makes it cost the consumer eighty or ninety. The government must be paid. If the duty was one hundred per cent. instead of the present high rate, the consumer would obtain it at twenty-two to twenty-five cents per pound, and this would afford the planter a better price than he now receives. The difference, therefore, between twenty-five cents a pound and ninety cents is the planter's loss, supposing the article always to sell at the same price in the English market."

The late treaty concluded by the present administration with the king of Hanover, is likely to aeffct most materially the tobacco interests. The thirteenth article of this treaty stipulates that the import duty on tobacco in Hanover shall not exceed seventy cents per pound, whilst the twelfth permits to all the States of the Germanic Confederation, to avail themselves of the provisions of this convention by means of an official exchange of declarations, provided that such State or States shall confer similar favors upon the United States to those conferred by the King of Hanover, and observe and be subject to the same conditions, stipulations, and obligations. The Washington Union observes upon these clauses:

"Three millions of the principal consumers of our staple are hereafter to pay no higher duty on the article than the inconsiderable one of seventy cents per hundred pounds, while it is to pass free of transit into the heart of Germany, instead of paying for the privilege of conveyance across Hanover about $1,25 per hhd. Similar concessions are expected from the States of the Zoll Verein.

"The Grand Duchy of Oldenburg, as has been seen, has already availed herself of this article, and other States are preparing to do so by changing their import and transit duties to meet the terms required. Mecklenburg-Schwerin, with a population of 500,000 inhabitants, the wealthiest in proportion of any of the continental States of Europe, will become a party at an early day. We learn that the relations of this most respectable Duchy with our country are guided by enlightened and generous statesmanship, and that her population will probably consume more per head in the aggregate of our products, under the new mode of duties which she is about to establish, than any European customer we have. The first diplomatic agent ever accredited to Mecklenburg from our country was Mr. Mann, who describes her prime minister as a most intelligent, courteous, and accomplished public functionary.

"It will be seen from the correspondence accompanying the treaty, that the republic of Bremen has consented to abolish her transit duties on the principal American staples going into Hanover, and that she proposes to adopt a similar measure in favor of goods destined to other States of the Zoll-Verein as soon as those States agree to a reciprocal policy."

* * *

SOUTHERN AGRICULTURE.

1.—Our Great Staple—Cotton.

In the May number of the Commercial Review, p. 443, will be found a valuable paper in relation to the Cotton trade and its prospects in the future. Since this publication we have seen in the Liverpool Times an article ftom A. H. Wylie, Esq., formerly a citizen of New Orleans, on the same subject, and are disposed to analyze it for the benefit of our readers.

The crop of the United States, 1846–7, is estimated at 1,770,000 bales, viz.: receipts at New Orleans and Texas, 720,000; Mobile, 310,000; Florida, 130,000; Georgia, 250,000; South Carolina, 330,000; other places, 30,000.

During the past five years the imports into Europe other than American, have been 471,000 bales, but such have been the discouragements in Brazil and the East Indies from low prices and short crops in Egypt, that no larger figures than 375,000 bales, can be fairly assumed. Stock in Europe, 1st Jan., 1847, 622,000, making a total supply for the year 1847, of 2,767,000 bales. The European consumption in 1846, was,

Great Britain,	1,593,000
France,	405,000
Continent,	345,000
United States,	422,000
Total,	2,745,000

What the consumption will be the present year may be enquired. It will be diminished by high prices of food, pressure in money market, and the advance of almost 50 per ct. on the raw material. Manufactured goods have not correspondingly advanced, so that the advantage has been to the planter, importer, and consnmer. India and China so far from being glutted with goods, are rapidly exhausting their supplies. The United States will compete largely with the demands from these quarters. Russia will take more than usually of yarn, and from no other source of demand is a falling off probable. The great point, however, is the unsatisfactory position of the spinner, and making all allowance for this, consumption may be safely assumed at 20,000 bales per week for the first six months, and 25,000 for the last six months of the year, making in the whole, 1,170,000 bales.

The consumption of France and the Continent was,

1842	—France,	441,000	Continent,	315,000
1843	"	406,000	"	337,000
1844	"	388,000	"	298,000
1845	"	418,000	"	357,000
1846	"	405,000	"	345,000
		2,058,000		1,652,000
	Average,	411,600		320,400

Neither on the continent nor in France can we expect this average to be maintained in the present year. In France it will be considerably reduced, and in some parts of the continent, though some of those countries, by our want of food, have increased and not diminished their wealth. It may perhaps be a safe figure to place the consumption of France at 350,000 bales.

And the continent of Europe at 275,000 „

625,000

The United States are likely to extend their consumption, which has, year by year, gone on gradually increasing. In 1837 it was only 220,000 bales; last year it reached 423,000, and the wealth which has flowed into America during the past and present year, and of which we have been drained, will largely add to this last figure.—By no competent party is the consumption for 1847 estimated at under	500,000 „
	1,125,000 bales.
Making, with the probable consumption in Great Britain of	1,170,000 "
A total consumption for 1847 of	2,295,000 bales.
Against an estimated supply of	2,767,000 bales.
And leaving a stock on 31 December of	472,000 bales.

which, with the most liberal supply before the end of the year, from the crop of 1847–8, would leave the trade much in the position in which it was at the opening of the year—at the mercy of a new crop, and depending upon its extent even for a sufficiency for "*short time.*"

2.—CULTURE OF THE SUGAR CANE.

Some one in the parish of St. Mary, and through the columns of the Planter's Banner, over the signature of "*Agricola,*" has been slashing away lately at the valuable paper of our friend, published by us, on the "Cane Culture," by the new and old system. We dislike controversy when it is embittered, and seems to seek less truth than conquest. We would not speak harshly of "*Agricola,*" for there are passages in his paper which evince an inquiring mind and a correct judgment, but we would beg him to remember that reason and argument are the only legitimate, as indeed they are the most irresistible, weapons. He will agree with us that the language of fair and open discussion should be courteous, dignified and respectful, doing ample justice in every point, to the views, feelings, arguments and motives of the opponent. However, we are seldom out of humor, and se enothing in this instance to induce a cloud. We extract freely from "*Agricola*" where he is likely to be useful:

> "While on the subject of cane culture, I should like to elicit the opinions of planters, why rattoons fail to send forth a sufficient number of sprouts, after the first year, generally, and diminishing in number and the size of the cane produced yearly; though the same land re-set with plants will produce as finely as ever—showing that it is not the exhaustion of the soil mainly, which occasions the phenomena, as assigned in the REVIEW, but some other cause. This, we all know, occurs on new lands. If exhaustion of the soil occasioned it, and the theory is true that under the covering system 'the soil improves in fertility,' the measure of endurance of stubble or rattoon, would be the extreme at which it could be sufficiently earthed or hilled. But the growth of plant cane on the same land sufficiently refutes the supposition.
>
> "I notice that the plant canes throw out fewer points, (or stool roots?) at or below the surface of the soil than the rattoon canes, and as the joint roots from the cane planted as seed, appear essential, not only in fixing it in the ground, but in sustaining the young shoot through its first stages of growth, I infer that the ratoons fail to germinate and grow vigorously in the second and third year's form, on account of their deficiency in this respect; the roots of the previous season not influencing the growth.
>
> "From this reasoning I deduce the opinion, that bareing the stubble too closely of earth in the spring, is an injurious practice; as the bud or young sprout is mainly dependant on the moisture derived from the soil for its growth, until it puts forth roots of its own. It should be stirred, I think, to admit air and heat, but not moved from the stubble as is common, and as the modern farmer advises. For first year's rattoon, it does not make much difference, for the reason I have above suggested; and perhaps I may very well be answered, 'that no good planter depends beyond the first year on ratoons;' such too, I think, is the practice among the best farmers,

and such I have understood is the common practice on the coast. Many of our prairie planters place no dependence on rattoons, planting yearly their entire crop.*

"As to the best seed cane. Which is the best, that taken from the plant cane or that from the rattoons? The rattoon has the fullest and most hardy bed, and its shorter joints give more sprouts from a given length of cane. The plant canes are smaller budded, flatter, and have a larger proportion of buds that are immature. I have planted of each kind, and think the latter makes the most forward cane, but not the earliest ripe. Indeed, I at one time attributed to this cause having the most immature crop I ever rolled. I should prefer on old land the plants for seeding—on new land the rattoons. But the taking of seed from plant canes destroys nearly all prospect of rattoon from the same land, a sacrifice which to most woodland planters will be a consideration."

3.—CORN AND THE CORN TRADE.

It appears from a late number of the St. Petersburg Gazette that the Russians have for export a surplus of the following grains: Rye Meal.—On the first of January, 1847, there were in private store-houses 468,000 sacks, and on the different water courses near St. Petersburg, 450,000 sacks more, on the way to market.—Awaiting the opening of navigation in the interior, 947,000 sacks were estimated. Stimulated by high prices, the Gazette counts on an additional receipt during the year, of 1,000,000, giving a total of 2,600,000, or 1,600,000 sacks over and above the wants of the city, and ready for exportation. The total of the surplus of Russia, at St. Petersburg and Odessa, is not far from 25,000,000 bushels wheat.

The following is from the Commercial List, Philadelphia:

Export of Breadstuffs since Sept. 1, 1846.

Places.	*Flour bbls.*	*Meal bbls.*	*Wheat bush.*	*Corn bush.*
New York,	1,075,885	280,906	1,430,041	4,727,623
New Orleans,	845,925	11,441	97,029	3,070,514
Philadelphia,	360,846	224,314	517,662	953,983
Baltimore,	535,415	61,060	105,988	1,400,682
Boston,	103,295	20,074	2,800	557,190
Norfolk,	22,289	8,716		912,372
Richmond and Petersburg,	49,160	8,105		27,164
Alexandria & Washington,	11,276	1,244		54,300
Charleston,	500		466	40,000
Savannah,	1,807	253		66,872
Mobile,	765			28,406
Apalachicola,				40,000
Wilmington, Del.,		5,100		
Newark, N. J,	91	2,034		912
Gardiner, Me,	500			
Cleveland, Ohio,	8,862		76,169	
	3,016,616	619,247	2,230,155	11,880,018

By changing the flour and meal into bushels, allowing five bushels of wheat to a barrel of flour, and four bushels of corn to a barrel of meal, and adding the same to the wheat and corn, we have a total of 17,313,235 bushels of wheat, and 14,357,006 bushels of corn.

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*Col. Andrew O'Brien, of Bayou Bœuf, is stated to have followed this method of cane culture for twenty-five years:

"Land that has already borne cane should be ploughed deep, and thrown into high beds. With a deep narrow plough and two horses, run a furrow on the bed. If the land is new, put in a cane and a half six feet apart. If old, put in two canes—six feet apart. The furrow should be well cleaned out that the cane may lie evenly on the bottom. Cover deep or shallow, to suit the fancy. If deep, scrape early. In cultivating stubble, bar off as close as possible. If there is a prospect of dry weather, throw back without delay. The best way to save stubble is to draw trash well up on the rows as soon as possible after cutting, and not to burn off until first of March."

The exports from the United States for the fiscal year, ending June 30, 1846, were 2,289,476 bbls. flour; 298,700 bbls. corn meal; 38,530 bbls. rye flour; 1,613,795 bushels wheat; 1,826,068 bushels corn; 638,221 bushels of other grain; or, reduced to bushels at the rate of five bushels for each barrel of flour or meal, 18,211,614 bushels, being something more than one-half of what has been exported in eight months of the present year.

The New York Courier and Enquirer remarks further: Now, our total export of wheat and corn, the largest ever made, is estimated for this year at twenty-eight and one-fourth millions of bushels. To carry that quantity,—and this brings into view another element which enters largely into all considerate estimates of the exportation of grain, the amount of shipping needed for transporting the cargoes, let us now inquire what number of vessels would be requisite.

Estimating the bushels of wheat and corn at 56 lbs. each, 20,000 bushels will weigh exactly 500 tons, the full average of what merchant vessels will carry. Now, supposing each vessel to make three voyages, and to carry 20,000 bushels at each voyage, it would require about 470 vessels of 500 tons each, equal to 235,000 tons. The whole amount of tonnage employed in foreign trade for the year 1845, and it was the largest amount employed for any year theretofore, as given in the annual report of the Secretary of the Treasury to Congress, in December, 1845, was of American vessels cleared, 2,053,977; foreign vessels cleared, 930,275. Making a total amount of tonnage, 2,984,252.

Hence it will be seen that the exportation of the cereals for the present fiscal year would require, upon the basis above stated, about one-twelfth of the tonnage which sufficed for the whole foreign trade of the United States in 1845, and that after all that shall be exported, there will remain in the United States, if the estimates of the Patent Office, at Washington, which a practice of many years should now render somewhat accurate, are at all to be depended on, more than four hundred and ninety-six millions of bushels of wheat and corn; the whole quantity exported not amounting in fact, to six per cent. of the quantity raised.

It was in view of these results—accurate, if the public statistics at Washington, published under the sanction of Congress, are trustworthy, that we have heretofore expressed the opinion that the supply of grain from this country would only be limited by the difficulty of obtaining conveyance.

4.—Selection of Seed Corn.

The demands now made upon our Indian grain market by all the world, renders it a matter of first necessity that every known improvement in culture should be adopted. Our friend, the Hon. George Strawbridge, refers us to a letter from Mr. Cook, of Virginia, containing some valuable hints about "seed," and states that a certain quantity of it was received by him and distributed to a number of planters in our vicinity.

Mr. Cook recommends the fall season for selecting seed corn, and that all who have tried it at his suggestions, have been eminently successful. To use his own language, "in cutting off the tops of corn in the fall, I would advise the tops to be left on those stalks having two or three fine ears and which are very forward and the shuck or husk dry and white, thereby showing their forwardness. By the top they can easily distinguish, at gathering time, the seed corn, and gather and house it to itself and not take the shuck off till planting time in the spring, keeping it until then secure from rats and vermin. By continuing this process for a few years they will materially increase their corn crops, with so little trouble that no practical farmer should fail to try it."

The Editor of the South Carolinian remarks upon the cut-worm, so destructive to corn, that its ravages may be prevented in the following manner:

"As soon as the corn is covered with earth, let a hand follow and apply a dressing of ashes and ground plaster, at the rate of one-third of the latter to two-thirds of the former; or if plaster cannot be procured, ashes alone, bleached or unbleached—the latter would be preferable, of course. A handful to each hill would be sufficient. A slight dressing of lime would answer instead of ashes, but in order to preserve the hands, it should be dipped out with a proper dipper, which should be made of a size suitable to the quantity intended for each hill of corn."

5.—Resources of the Great West.

The following extraordinary statistics are from the Cincinnati Chronicle:

There is dependent upon Cincinnati a circuit of country including in the State of Ohio, twenty-nine counties—running from the Ohio North to Shelby; twenty-one counties of Indiana, on the Eastern side; twenty-six counties of Northeastern Kentucky, and eleven counties of Western Virginia. There is no other city or town, which can materially compete with Cincinnati, in that region. This comprises a space of just about 40,000 square miles.

By the agricultural statistics of the census of 1840, and reports since, it appears that the section of country thus described produced, in 1846, as follows: of Indian Corn 51,870,015; of Wheat 10,988,579; of Oats 13,229,526; of Barley 124,866 bushels. The following conclusions are deduced:

1. That the Corn and Wheat raised around Cincinnati, in 1840, was equal to *one-eighth* that of the *entire* United States. That, at the rate of European cultivation, it would be one-half of the whole raised in the United States!

2. That the quantity actually raised in 1846, within these limits, would feed six millions of people, and their cattle and horses.

3. That New York and Boston, cities with half a million of inhabitants, are the marts of a country with but five millions of inhabitants, and whose people do not raise wheat and corn enough to feed themselves!

4. That if Cincinnati was now as populous as the city of New York, it would not have attained the size of a city proportioned to the *feeding capacity* of the country, immediately adjacent to it, in the year 1846!

5. That of the eighty-seven counties thus estimated, *two of them* (Butler and Clermont) raise more Indian Corn than the United States *ever exported in any one year prior to* 1846.

6. That *fifteen* only of these eighty-seven, (viz: Hamilton, Butler, Warren, Preble, Montgomery, Clermont, Brown, Clinton, Green, Fayette, Madison, Clark, Champaign, Miami and Logan,) raised more corn in 1846 than the entire amount exported to Europe in 1846–7, with the famine of Ireland and half of Europe to make the demand!!

7. That the amount raised in these eighty-seven counties, was four-fold the boasted export of the United States in 1846–7.

6.—Northwest Regions of the United States.—New Territory of Minesota.

The Toledo Blade is authority for the following:

"It is bounded on the north by Canada West; on the east by Michigan and Wisconsin; on the south by the parallel of 43 degrees 30 minutes, which is the most northern line of Iowa; and on the west by the river Sioux and Red River of the North. The line separating Minesota from Michigan is in Lake Superior, and that separating it from Wisconsin passes along Lake Superior to the Falls of the St. Louis river, and thence south till it strikes the river St. Croix, which it follows to the Mississippi, thence down the Mississippi to latitude 43½, the place of beginning.

"Embraced wtthin these boundaries there are about 90,000 square miles—equal to 58,000,000 of acres. It is nearly the same latitude as the State of Maine. In area it exceeds the Island of Great Britain, and it is nearly equal to France. Comparing it with older States, it is as large as New York and Pennsylvania. For the production of wheat and the grasses the soil and climate are favorable."

7.—The Cotton Worm.

The scientific contribution of Dr. D. B. Gorham in our present number, will be read everywhere with interest. We should be pleased always to have his pen in our service.

As we note everything that it said pro and con about this extraordinary scourge of the cotton field, we set aside some observations for the purpose lately made in the Baton Rouge Conservator, by its editor.

The writer enunciates his proposition thus:—

"*Our argument is that the army worm is a form of life produced by poisonous fluids, generated by the continued cultivation of the same plant in the same soil for a series of years.*"

He maintains that the remarkable destroyers of vegetable products are confined to staples entirely, and adduces as examples the "fly carrier" of the indigo, the "insect" of the orange tree, the "rot" of the potato, the "fly" of the wheat. In one county in New York, a resort to high manuring put an end to the devastations of the wheat fields by this insect. As further examples are given the "curculio" of the plum tree, the "insect" of the turnip fields of England, "mildew" of the vineyards of France, Spain, and Italy, the "yellow" of the peach tree, &c.

The final conclusion drawn is—

"The army worm is the same in kind as the fly of the wheat, the capeda insect of the indigo plant, the disease of the potato called the "rot," and never can be exterminated except by rotation of crops, wearing itself out, or the artificial addition to the soil of the principal that having been previously exhausted, now displays the fact by the production of the army worm."

8.—THE TOWN OF SHREVEPORT, LOUISIANA.

Far away in the northwest of our State, and in the immediate vicinities of Texas and Arkansas, the town of Shreveport presents much to interest. According to the Gazette, it is steadily advancing in population and general improvement.

"The tone of morality has become vastly elevated; piety is respected; a desire for the advancement of religion and science plainly manifested. Men now, which was not the case in days of yore, suspend on the Sabbath the pursuit of their wonted avocations. We hear not now "the song of revelry by night," nor is the ear pained by the shrill crack of the pistol. The echoes have died away. Wrangling and party violence have been consigned to the tomb of the Capulets, and all is peace, plenty, and happiness."

9.—PROGRESS OF CHARLESTON.

We are not a little delighted to contemplate the improvement which is taking place in the commercial character and reputation of our neighbor city. She has occupied a high and proud position ,and will occupy it again.

The Evening News, a sheet remarkable for its statistical accuracy, congratulates the citizens on the advent of a better day. For twenty years they have suffered reverses, prodigious losses by fires, from injudicious investments, and from heavy taxes. The cloud is passing over. The following are gratifying statistics. God bless the old city, let her march onward, onward, onward, in her career!

Receipts at Charleston.

	1846–7.		1845–6.
Cotton,	338,009	Against	213,449 bales
Rice,	130,213	"	91,168 bbls.

Increase Cotton,	124,850 bales.
" Rice,	39,045 bbls.

The value of each bale cotton being valued at $26 in 1845–6, and $40 in 1846–7, we have total value cotton in these years—

338,009 bales at $40,		$13,520,360
213,449 " $26,		5,549,674
Excess value cotton,		7,970,668
Valuing Rice at $25 per barrel each year—		
130,213 at $25,	$3,255,325	
91,168 at $25	2,279,200	
Over 1846,		976,125
Total excess in value 1847.		$8,946,811
Flour received by railroad from interior of the State etc.,	6,000 bbls.	
" " boat " "	1,500 "	
	7,500	
Grain, corn, wheat, and peas received from interior,		177,797 bush.

"If we take the receipts of produce in 1846–7 as a criterion for the future, we would not assume too high an average, supposing that those receipts remain stationary; but when a moderate computation is made of the addition which the railroad communications with the Southwest and the interior of our State, in prospect or in course of rapid completion, will make to those receipts, the increase revenue in the various departments of business must be progressively in a higher ratio than the increase of the present over the past year. It is estimated that the receipts of cotton at this port will be augmented at the rate annually of 50,000 bales for the next five years. This would nearly double our present annual receipts at the end of that period, and increase the revenue of all parties connected with the purchase and shipment of this staple at least $1,000,000 per annum.

10.—MANUFACTURES IN ALABAMA.

A correspondent in the Alabama Planter adverts to the fact that the manufacture of iron was commenced in Bibb and the surrounding counties in that State, as early as 1830 or 1831. There are several establishments now in successful operation, and the writer observes:—

"Indeed I know of no cause why they should not vie with any others of the kind in the United States. The ore is pronounced by competent judges to be very rich. It lies in many places almost or quite at the water's edge. Timber for fuel is inexhaustible and of the best quality, and for those who desire to use it, bituminous coal is almost at the door, while the water power is almost, as before said, unlimited—the whole distance from the junction of Sheal and Mahon's creeks (forming what is often called Little Cahawba) to the Big Cahawba, being a succession of falls, presenting in its whole course of fifteen or sixteen miles, scarcely a mile without both fall and power necessary to drive the largest kind of forge and furnace together, and having at all places the best rock foundations upon which to erect dams and all other necessary superstructures, with limestone in abundance to construct them with, if preferred to timber, which is almost without limit as to the quantity, and of superior quality.

"Talapoosa, Coosa, Benton, St. Clair, Blount, Jefferson, Tuscaloosa, and perhaps Pickens, Perry, and Autauga have each advantages corresponding with those in Bibb and Shelby, and need only the hand of industry and enterprize to develope them. It might be further remarked that these resources are not in barren hills or mountains where roads would have to be constructed to reach them, and provisions transported a distance to them, but are mostly in fertile vallies in comparatively dense settlements of industrious and frugal farmers, who could furnish in great plenty all the provisions needed for the manufacturing establishments built up among them, while the water privileges are so abundant that prices are almost nominal, offering to capitalists additional inducements in this respect to enter into business here, while the many other resources of this country for manufacturing purposes must at no distant day create a large demand for iron in its various forms of machinery, implements, etc."

The State appears to be in earnest also about the manufacture of cotton. The "Planter" informs us that there are establishments in Bibb and Perry counties, and that Tuscaloosa is preparing to enter largely into manufacturing. There have been established factories at Florence and Tuskegee.

"Mr. Daniel Pratt, of Autauga county, has also a mill in operation. This gentleman, some fifteen years ago, commenced the manufacture of cotton gins. The place selected was then a wild and secluded spot, but its aspect has since been changed as if by magic. As the demand for his work increased, additional machinery and artisans were employed, until in time the workshops and dwellings swelled into a beautiful and thriving village. It has, very appropriately, received the name of its founder, thus perpetuating, if he had no higher claim to be remembered, his name and enterprize. In the mean time, other branches of industry followed, and finally a cotton factory was established.

"It is a matter of regret that we are not possessed of sufficient data to describe minutely its extent and operations. A friend who visited Prattville some months ago, and enjoyed for several days the hospitality of its intelligent and amiable proprietor, promised to furnish us with a detailed account of the cotton mill as well as of the village, but we fear he has forgotten both his promise and the glowing description he gave us of the beautiful and picturesque appearance of this embryo Lowell.

"Mr. Pratt himself, we are glad to see, is engaged in informing the people, not of his own efforts in pushing forward manufacturing enterprise, but of the obvious policy which Alabama should pursue for enriching and developing her resources."

1.—*Overland Journey Around the World*, during the years 1831 and 1842, by Sir George Simpson, Governor in chief of the Hudson Bay Company's Territories, complete in two parts. Philadelphia, Lea & Blanchard. New Orleans, J. C. Morgan.

This is one of the most valuable and interesting works recently issued from the press and brings to our intimate acquaintance portions of the globe the most remote and the least explored. Simpson, after Ledyard & Cochrane, was the first individual who ever attempted a journey like the one illustrated in the volumes before us, and he went even further than his pioneers, by visiting Kamschatka, British America, California and the Sandwich Islands, and graphically describing their peculiar characteristics.

2.—*Omoo: A Narrative of Adventures in the South Seas*, by Herman Mellville, author of Typee, in two parts. New York, Harper & Brothers, 1847. New Orleans, J. B. Steel.

Mr. Melville has been favorably known to the world by his brilliant and spirited "Typee, or Peep at Polynesian Life," and he has now continued in a similar vein these sketches, which the world received so favorably. The word Omoo is of the Marquesas Islands, and signifies a rover or wanderer.

3.—*Dictionary of Poetical Quotations*, by John T. Watson, M. D. Philadelphia, Lindsay & Blakiston. New Orleans, J. C. Morgan, 1847.

> "The world is full of poetry—the air
> Is living with its spirit; and the waves
> Dance to the music of its melodies
> And sparkle in its brightness."

The work is dedicated to Mrs. Welby, the sweet "Amelia" of American song. It bears the evidences of much pains and labor in compilation, and for those who think of poetry as Byron did of *Latin*, "that it comes so *pat in*," the work will come highly recommended.

4.—*Scripture Illustrated*, by Rev. Charles Field. Harper & Brothers, New York. J. B. Steel, New Orleans, 1847.

A beautiful little volume for the young, imparting instruction wrought with pleasure. The introduction is written by the Rev. John Todd.

5.—*Washington and his Generals*, by J. J. Headley, author of Napoleon and his Marshalls, &c., 2 vols. New York, Baker & Scribbner, 1847.

We received the first volume from Messrs. D. Baker & Co., Camp street, New Orleans. It contains biographical sketches of Washington, Putnam, Montgomery, Arnold, Stark, Schuyler, Gates, Steuben, Wayne, Conway, Mifflin, Ward and Heath, with engraved portraits of most of these distinguished generals. The production is highly creditable to the author, and will, without doubt, obtain considerable circulation. For, somehow or other, it comes to pass that let things go as they may, the times that tried men's souls and the actors in them, still kindle enthusiasm and interest.

6.—*Hackley's School Algebra*. Harper & Brothers, 1847. A Treatise, in boards but of handsome appearance and beautiful print, upon an interesting branch of education. The system, arrangement and simplification aimed at here, give the work a relative merit. Every one should study this simple method of using numbers, which independently of its mental training, presents the advantages of facility, economy of time and accuracy. Our professor used to term Algebra the language of mathematics.

7.—*The Tourist's Guide, or Pencillings in England and on the Continent*, by John H. Sherburne. Philadelphia, Zieber & Co. These are a series of notes taken *con amore*, by the accomplished author, whose facilities, by reason of his intimacy with the fashionable society of Great Britain and Europe, afforded him ample opportunities of exercising that keen observation of men and things which is displayed in this work. Nor does his book aim at gossip, *a la* Willis alone; but it has a higher ambition, a nobler aim; and while it affords the casual reader of elegant literature a fine repast, it gives to the knowledge seeker substantial facts. In truth, we have never seen the *utile cum dulce* combined more successfully.

8.—*History of United States for use of Schools*, by Marcius Wilson. New York, Mark H. Newman, 1847. New Orleans, D. Baker & Co.

The author of this useful and accurate work, submitted a Report, in 1845, to the New Jersey Society of Teachers and Friends of Education, in which he points out errors in most of the school histories now in use, viz. those of Frost, Goodrich, Hall, Willard, &c. &c., and he proposes in the present volume to put in the hands of youth, a volume in every respect reliable. We have not been able to examine the work sufficiently to determine how far he has achieved this.

9.—*Pictorial History of France.—Pictorial History of Greece.—Pictorial History of England.—Pictorial History of United States.* By S. G. Goodrich, Peter Parley.

The great reputation of this writer as an instructor of the young both in England and in this country, renders it superfluous in us to say any thing in commendation of his labors.

The present volumes form but a portion of a series of some twenty, well and uniformly bound, and calculated from cheapness of cost to enter into the largest circulation.

They may be had at D. Baker & Co's., Camp street.

10.—*Caldwell's Manual of Elocution*, 1847. We are favored with this volume by D. Baker & Co. The author makes great use of Rush's Treatise on the Voice, and gives practical rules for carrying out the principles of the great physician.

11. *Orrin Lindsay's Plan of Aërial Navigation*, edited by J. L. Riddell. This was a lecture delivered before the People's Lyceum, and now published at the request of several gentlemen. It is an admirable production, and without question the most capital "moon story" we ever heard of. Professor Riddell in a sportive whim has in this instance made strict science tributary to his fancy, and the basis being assumed, his narrative pursues a smooth course with demonstration at every step in the progress.

Mr. Lindsay, an eccentric genius, conceiving with Newton that gravity is the result of a direct influence of matter upon matter, sets himself to discover some substance "impervious to this gravity," capable of shutting off, as it were, its influences. This interposed between man and the earth would of course destroy its attraction and leave him to move at his will through space.

The "impervious" substance is discovered to be "prepared steel, superficially amalgamated with quicksilver, and then strongly magnetized"—but the process of preparing this steel, "aye, there's the rub." Mr. Lindsay is too keen a hand to reveal the secret just now.

Well, this balloon is constructed, the plates interposed, and the aëronaut leaves the vicinities of Natchez, Miss., and shoots away 26,400 feet, 3300 feet higher than the ascent of Gay Lussac.

But this is nothing, mere *moon-shine* to what is in reserve. The indefatigable Lindsay makes a few corrections, enlarges his plans, and with one Josslin, a kind of "Man Friday," to Robinson Crusoe, cuts loose from gravitation again and floats out into thin air. In ninety hours he comes within 100 miles of the moon, and letting in gravitation, away they go, he and Josslin, like all the world, (a very small world, to be sure) around and around and around this orb, a miniature satellite, whose period of revolution is "54 minutes 17 seconds" precisely. Did space admit we should be happy to extract the passages of *luna*-grophy which follow; but as Mr. Lindsay still lives, and is preparing to visit "Mars," we will await the further result of his explorations. To Professor Riddell we present our thanks for the pamphlet.

12.—*American History*, comprising Historical Sketches of the Indian Tribes; a description of American Antiquities, with an inquiry into their origin and the origin of the Indian Tribes: History of the United States, with Appendices, showing its connection with European History: History of the Present British Provinces: History of Mexico; and History of Texas, brought down to the time of its admission into the Union, by Marcius Wilson, 1 vol. New York; Mark H. Newman. New Orleans: D. Baker & Co.

This is an interesting volume upon a new method of arrangement, embracing in a short compass almost every thing that could be desired by the general reader in relation to North America. It is illustrated by numerous wood cuts and maps and marginal notes. The writer has strongly developed the capacity of collecting and imparting information, and we doubt not his work will meet with a large proportion of popular favor. In his tone he is temperate, even when treating of contemporaneous events, a thing most difficult to achieve, and his principal aim throughout appears to subserve the cause of education and historic truth.

OUR EXCHANGES.

Upon our table appears *Hunt's Merchants' Magazine* for June, with more than its usual quantum of valuable matter. The article by Colonel Childs, of Philadelphia, is worth the volume, as also is the one on Breadstuffs. We see that Mr. Hunt has been made a member of the Statistical Society of England, an honor richly deserved. Mr. Hunt publishes in his present number some twenty pages of commendations his work has received from the most distinguished sources.

We once found fault with our neighbor for the continued receipt of our Review without acknowledgment. In the following notice he has given, our misapprehension is corrected:

"DE BOW'S COMMERCIAL REVIEW for May, contains much valuable information of a commercial and miscellaneous character. It has reached its *seventeenth* number, which is, in our opinion, the best of the series. Success to our name-sake."

We have next the *Southern Literary Messenger*, edited by our friend Minor, of Richmond, Va., June number. Almost monthly a marked improvement is recognized in this excellent periodical, whose circulation deserves to be largely extended.

Bankers Magazine. Baltimore: J. Smith Homans, monthly, June, 1847. We have frequently called attention to this work. The present number contains the following articles: Money Market in U. S.; English Money Market; Stock Investment; Bank Statistics; Pursuit of Knowleege by Merchants: Bank of England; Life Assurance; Legal Miscellany; State Finances, etc.

Law Reporter, for June—Boston. Monthly, with Recent American Decisions, Original Papers, etc.

Law Journal, Philadelphia, for June. Monthly. Usually interesting and valuable to the profession.

Silliman's Journal for May. Bi-monthly. Contents, among other items, Scandinavia, Free Electricity, Zoophytes, Caricography, Glycocoll, Outline Features of Earth, Algae of United States.

Farmers' Library for May, J. S. Skinner, New York. Every agriculturist should have it. It contains a continuation of Stephens' Book of the Farms, and a great variety of information upon the different crops of the Union.

This book should be returned to the Library on or before the last date stamped below.

A fine is incurred by retaining it beyond the specified time.

Please return promptly.

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